Published by Authority of the New South Wales Commissioners
for the World's Columbian Exposition, Chicago, 1893.

DEPARTMENT OF MINES, NEW SOUTH WALES.

EXTRACTS

FROM THE

ANNUAL REPORT

OF

THE UNDER SECRETARY FOR MINES,

TO

THE HONORABLE T. M. SLATTERY, Esq., M.P.

(Minister for Mines and Agriculture),

FOR THE YEAR 1892.

Sydney:
CHARLES POTTER, GOVERNMENT PRINTER, PHILLIP-STREET.

1893.

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EXTRACT OF AREAS IN WHICH THE PRINCIPAL MINERALS ARE FOUND.

THE approximate areas in which the undermentioned Minerals and Metals are found are as follow:—

Gold..	32,000	square miles.
Silver	10,000	,,
Tin	8,000	,,
Copper	10,000	,,
Coal..	34,000	,,
Kerosene Shale	500	,,
Iron..	1,400	,,
Diamonds	1,100	,,

In addition to the above the following Minerals are found in New South Wales:—

Lead Ores, Antimony Ores, Bismuth Ores, Zinc Ores, Manganese Ores, Cobalt, Chromite, Wolfram, Scheelite, Cinnabar, Platinum, Precious Opal, Emerald, Asbestos, Tripolite, Alumite (Alum Stone), Slate, Flagging, Marble, Limestone, Serpentine, Granite, Sandstone, Porphyry, and other Building Stones, Brick and Pottery Clays and Pigments.

Department of Mines, New South Wales.

EXTRACTS from the Annual Report of the Under Secretary for Mines to the Honorable T. M. Slattery, Esq., M.P., Minister for Mines and Agriculture, for the year 1892.

INSPECTION OF MINES OTHER THAN COAL AND SHALE MINES.

THE report of the Chief Inspector of Mines (Mr. Slee, F.G.S.), states that 18 fatal and 28 non-fatal accidents occurred in connection with metallic mining during 1892, being a decrease of two fatal accidents and 4 non-fatal accidents as compared with 1891. Unfortunately, the percentage of fatal accidents is slightly higher this year than during 1891, being 1·04, as compared with ·93, and the non-fatal accidents 1·62, as against 1·49 during the same period. During the year there was 1 fatal accident for every 963 miners employed, as against 1 in every 1,071 miners employed during 1891. Of the 18 fatal accidents during the year, 2 were from falling down shafts, 2 from fall of timber, 7 from fall of earth, 5 from explosion of shots, 1 from flooding of mine, and 1 due to an accident to the boiler. Of the non-fatal accidents, 2 were from falling down shaft, 1 from bucket falling down shaft, 5 from fall of earth, 13 from explosion of shot, 2 from injury by railway trucks, and 5 miscellaneous.

The following localities were inspected during the year:—

By the Chief Inspector.

Orange, Blayney, Carcoar, Cowra, Bathurst, Wattle Flat, Sofala, Hill End, Hargraves, Windeyer, Mudgee, Gulgong, Denison Town, Leadville, Rylstone, Cudgegong, Woodstock, Canowindra, Cargo, Alicktown, Peak Hill, Tomingley, Cobar, Billygoe, Nymagee, Parkes, Forbes, Grenfell, Gundagai, Adelong, Tarcutta, Tumberumba, Snowy River, Coolac, and Muttama Districts.

By Inspector Milne.

North—Armidale, Hillgrove, Rockvale, Uralla, Glen Innes, Glen Elgin, Inverell, Stewart's Brook, Moonan Brook, and Copeland. South—Marulan, Towrang, Taralga, Mount Werong, Goulburn, Bungonia, Windellama, Curragh Creek, Boro, Braidwood, Nelligen, Brimbramalla, Yalwal, Mogo, Moruya, Nerrigundah, Wagonga, Mount Dromedary, Bega, Bermagui, Coolagalite, Pambula, Wyndham, Cooma, Queanbeyan, Captain's Flat, and Bungendore. West—Rylstone, Ilford, Mudgee, Gulgong, Denison Town, Windeyer, Hargraves, Hill End, Sofala, Quartz Ridge, Wattle Flat, Sunny Corner, Bathurst, Newbridge, Caloola, Cowra, Cargo, Canowindra, Orange, Ophir, Stuart Town, Peak Hill, Myall, Parkes, and Molong.

By Inspector Hebbard.

Mr. Hebbard is stationed at Broken Hill, and, in addition to making frequent inspection of the mines in the Broken Hill District, has also visited the localities of Purnamoota, Apollyon Valley, Thackaringa, Umberumberka, Nuntherungie, Numba, Mount Browne, and Tibooburra.

DIAMOND DRILLS.

Though the demand for diamond drills was not nearly so great in 1892 as in previous years, the work was, as usual, successfully conducted under the supervision of Mr. W. H. J. Slee, F.G.S.

The aggregate depth bored in 1892 was 4,139 ft. 1 in., being 3,658 ft. 8 in. less than in 1891. Average cost per foot in 1892 was 16s. $0\frac{7}{16}$d., as compared with 14s. $11\frac{1}{4}$d. per foot in 1891. Cost of diamonds used in 1892 was 2s. 2d. per foot bored, as compared with 1s. $9\frac{23}{32}$d. in 1891. But for the increase in the cost of diamonds, and the large diameter ($5\frac{1}{2}$ inches) of the Cremorne Bore, the cost would have been less than in 1891. The earnings of the diamond drills during the year amounted to £3,486 7s. 11d. The amount paid into the Treasury during the year was £4,359 12s. 5d., the surplus over the earnings being part of the earnings of 1891, which was received too late to include in the Report for 1891. The result of the year is a debit balance of £26 6s. 4d. This has been caused by having to purchase during the year a new stock of diamonds and boring rods. The aim being to work these drills in such a manner that the persons who employ them shall have their work done at cost price, it is the duty of the Superintendent to estimate the cost of each bore at such a rate as will just cover the cost. In this he is invariably successful; but usually there is a slight balance in favour of the Department.

METALLURGIST.

In June, 1886, it was decided that efforts be made to secure the services of a thoroughly competent metallurgist to take charge of metallurgical works to be established in or near Sydney on a site as convenient as possible for the carriage of ores by rail or water. It was also decided that the selection of the site be left to the metallurgist, who should advise upon the necessary building and appliances. Advertisements were published, and inquiries instituted in Europe and America, the result being a number of applications, and eventually it became necessary to make a selection. With this object, a Board was appointed, consisting of Mr. Cosmo Newbery, C.M.G., of Melbourne; Professors Liversidge and David, of the Sydney University; Dr. Liebius, of the Sydney Branch of the Royal Mint; Mr. Pittman, the Government Geologist; and myself. The Board advised the appointment of Mr. James Taylor as the most suitable of the applicants. The Board also advised that on account of the costliness of erecting smelting works and carrying on smelting operations for the purpose of satisfactorily testing bulk samples of ores, the Government should not in the first instance erect such works, but should erect suitable crushing and concentrating apparatus, sampling-floors, and appliances for the extraction of gold, silver, and other metals by processes other than smelting, and that persons duly authorised be allowed to see the working of any process he may use in the extraction of metals from ores and the separation of metals so extracted.

SCHOOL OF MINES.

In dealing with this important question it was requisite, in order to avoid unnecessary expenditure of public money, to take into consideration the provision made outside this Department for imparting instruction in mining subjects. To have started a separate school of mines without regard to what had already been done, would have involved the expenditure of a very large sum of money in the erection and fitting up of suitable buildings, and a large annual expenditure in maintaining the same and providing the necessary teaching staff, and then such a school would have been duplicating much of the work undertaken at great expense by the Sydney University and the Technical Branch of the Department of Public Instruction. Under these circumstances, it was deemed expedient to appoint a Board, consisting of gentlemen representing the University, the Department of Public Instruction, and this Department, and possessing some knowledge of the subject referred to them.

The Board at once recognised the importance in the public interest of utilising to the fullest extent the expenditure already incurred, and the provision made for giving instruction in subjects included in the curriculum of a mining school, and addressed themselves to the consideration of the best means of providing as complete a course as possible for the training of mining engineers and mine managers respectively, while guarding against unnecessary duplication.

It appeared to the Board that the Technical Branch of the Department of Public Instruction possesses facilities for imparting instruction in mining centres which might prove of the greatest advantage to persons engaged in mining pursuits who cannot afford to devote the time in Sydney necessary to qualify for a certificate, and that such persons might thus, while following their avocations in the mine, acquire as much theoretical instruction as would enable them to pass the requisite examination in some of the subjects, if not in the whole course. In order that all candidates for the certificate of competency as mining manager shall possess practical as well as theoretical knowledge, the Board stipulate that in addition to passing the prescribed examination in the several subjects of the course, they shall produce proof of having for a period of at least two years been employed in a mine. Consequently, a student at the Technical College in Sydney will be required, either before entering upon his course of instruction, or at any rate before presenting himself for examination, to have served at least two years in a mine.

The course at the University provides for the higher training necessary to qualify for the degree of Bachelor of Engineering in mining and metallurgy. This course includes a large amount of practical work in the laboratories, but no practical training in a mine is requisite for this degree, but before proceeding to the degree of Master the graduate must produce proof of practical training in a mine or metallurgical works. This course should provide a class of Managers that should be of the greatest value in our larger mines, and the difficulty of treating the refractory ores in so many of our mines will afford ample scope for their employment, and they should be able to render valuable service to the Colony.

In order that students who enter for the Mining Manager's Certificate may proceed to the higher course at the University with the smallest sacrifice of money and time, the Board recommends that any student who produces a certificate from the Technical Branch of having passed the examination for the first or second year's course, or for any subject comprised in such course, be exempted from attending lectures or passing the prescribed examination at the University for such first or second year's course or for such subject. The Board also suggests that facilities be afforded for entering upon the course of the Mining School at the University, and approve of the proposal to provide bursaries to enable students to complete their course at the University. The Board also recommends that facilities be afforded to Mining Students at the University and at the Technical College to acquire practical instruction under the Government Metallurgist in metallurgical processes and in the manipulation of metallurgical appliances.

MINERAL PRODUCTS.

When writing my report for 1891, I fondly hoped I should have had the pleasure of reporting that at the end of 1892 the value of our mineral products had exceeded one hundred millions sterling. Had the value of our output in 1892 equalled that of 1891 my expectation would have been realized, but, unfortunately, owing to the strike at Broken Hill, and the financial depression as affecting mining ventures, the value of our output in 1892 fell short of that of 1891 by £1,349,194 9s. 4d. Consequently, the value of the minerals produced up to the end of 1892 amounted to only £98,842,779 1s. 5d. Notwithstanding the decrease, as compared with 1891, the value of the output in 1892, £5,305,815, is greater than that of any year prior to 1891, and exceeds the decennial average by £1,207,456. With an increase in knowledge regarding the treatment of ores it is more than probable that many of our mines now idle or struggling to exist may become prosperous ventures and afford increased employment to a number of miners and others. The decreases in the value of the output of minerals other than silver ores is more than counterbalanced by the increases in the output of other minerals.

The following table shows the aggregate value of minerals, the produce of New South Wales for the years 1891 and 1892 respectively compared :—

Minerals.	Quantity.	Value.			Quantity.	Value.			Increase in Value.			Decrease in Value.		
	1891.	£	s.	d.	1892.	£	s.	d.	£	s.	d.	£	s.	d.
Gold	153,335·62 oz.	558,305	12	3	156,870·00 oz.	569,177	17	4	10,872	5	1	……		
Silver*	729,590·05 ,,	134,850	0	0	350,661·50 ,,	56,884	0	0	……			77,966	0	0
Coal	4,037,929·30 tons	1,742,795	12	6	3,780,967·71 tons	1,462,388	9	4	……			280,407	3	2
Shale	40,349·00 ,,	78,160	0	0	74,197·15 ,,	136,079	6	0	57,919	6	0	……		
Coke	30,310·35 ,,	34,473	5	10	7,899·00 ,,	8,852	8	6	……			25,620	17	4
Tin	3,144·52 ,,	271,412	0	0	3,492·10 ,,	314,114	0	0	42,702	0	0	……		
Copper	4,525·55 ,,	205,093	0	0	4,834·20 ,,	187,706	0	0	……			17,387	0	0
Iron†	4,125·81 ,,	36,101	0	3	2,782·17 ,,	22,605	2	6	……			13,495	17	9
Antimony	914·85 ,,	22,057	0	0	728·25 ,,	14,680	0	0	……			7,377	0	0
Bismuth	·40 ,,	500	0	0	14·25 ,,	1,080	0	0	580	0	0	……		
Silver-lead and Ores	147,779·70 ,,	3,484,739	0	0	133,354·95 ,,	2,420,952	0	0	……			1,063,787	0	0
Manganese	138·20 ,,	340	0	0	15·80 ,,	47	0	0	……			293	0	0
Oxide of Iron and Pig-iron	228·75 ,,	434	0	0	453·15 ,,	869	0	0	435	0	0	……		
Zinc Spelter	218·60 ,,	2,622	0	0	444·55 ,,	5,055	0	0	2,433	0	0	……		
Lead (Pig)	190 65 ,,	2,025	0	0	70·90 ,,	726	0	0	……			1,299	0	0
Limestone (Flux)	74,057·00 ,,	65,357	6	2	103,368·00 ,,	93,031	4	0	27,673	17	10	……		
Alunite	704·00 ,,	1,888	0	0	821·00 ,,	3,284	0	0	1,396	0	0	……		
The Noble Opal	……	……			41·67 lb.	2,000	0	0	2,000	0	0	……		
Cobalt	1·15 tons	470	0	0	76·00 tons	1,110	0	0	640	0	0	……		
Fireclay	16·80 ,,	55	0	0	35·00 ,,	80	0	0	25	0	0	……		
Lime	410·00 ,,	958	0	0	403·00 ,,	822	0	0	……			136	0	0
Marble	635 pkg.	2,577	0	0	……	……			……			2,577	0	0
Stone (Building)	4,735 No.	5,205	0	0	2,478 No.	2,838	0	0	……			2,367	0	0
,, (Ballast)	619 tons	713	0	0	224 tons	276	0	0	……			437	0	0
Grindstones	471 No.	311	0	0	……	……			……			311	0	0
Slates	31,234 ,,	351	0	0	……	……			……			351	0	0
Sundry Minerals	788·95 tons	3,217	0	0	……	1,158	0	0	……			2,059	0	0
		6,655,009	17	0		5,305,815	7	8	146,676	8	11	1,495,870	18	3
												146,676	8	11
									Net decrease…£			1,349,194	9	4

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* The greater part of the silver produced is exported in the shape of silver lead.

† Not manufactured from the ore, but old iron.

The following Return shows the Quantity and Value of Gold, Coal, Shale, Copper, Tin, Silver, Silver-lead Ore, and the several other Metals and Minerals produced in the Colony of New South Wales during the last ten years:—

	1883.		1884.		1885.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
		£		£		£
Gold	123,806 oz.	458,509	107,199 oz.	395,292	103,736 oz.	378,665
Coal	2,521,457 tons	1,201,942	2,749,109 tons	1,303,077	2,878,863 tons	1,340,213
Shale	49,250 ,,	99,861	31,618 ,,	72,176	27,462 ,,	67,239
Copper and Regulus	8,957·7 ,,	577,201	7,305·4 ,,	416,179	5,746 ,,	264,920
Tin and Tin Ore	9,125·5 ,,	824,552	6,665·9 ,,	521,587	5,193 ,,	415,626
Silver	77,065·9 oz.	16,488	93,660·25 oz.	19,780	794,174 oz.	159,187
Silver-lead and Ore	136·20 tons	2,075	9,167·55 tons	241,940	2,286 tons	107,626
Iron	3,434·15 ,,	26,908	3,759 10 ,,	24,572	4,176 ,,	25,793
Antimony and Ore	375·55 ,,	5,555	433·60 ,,	6,458	293 ,,	4,296
Asbestos	....	....	....	....	6 ,,	90
Bismuth	3·70 tons	650	14·37 tons	2,770	14 ,,	3,700
Oxide of Iron	....	....	....	....	....	....
Zinc Spelter	....	....	....	....	....	....
Lead (Pig)	....	....	....	....	....	....
Limestone Flux	....	....	....	....	....	....
Opal	....	....	....	....	....	....
Manganese	....	....	....	....	....	....
Cobalt	....	....	....	....	....	....
Coke	....	....	....	....	....	....
Alunite	....	....	....	....	....	....
Fireclay	....	....	....	....	....	....
Lime	....	....	....	....	....	....
Marble	....	....	....	....	....	....
Stone (Building)	....	....	....	....	....	....
,, (Ballast)	....	....	....	....	....	....
Grindstones	....	....	....	....	....	....
Slates	....	....	....	....	....	....
Sundry Minerals	31 tons	160	....	....	457 tons	7,820
	....	3,204,901	....	3,003,831	....	2,775,175

	1886.		1887.		1888.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
		£		£		£
Gold	101,417 oz.	366,294	110,288 oz.	394,579	87,503 oz.	317,100
Coal	2,830,175 tons	1,303,164	2,922,497 tons	1,346,163	3,203,443 tons	1,455,198
Shale	43,563 ,,	99,976	40,010 ,,	87,761	34,869 ,,	73,612
Copper and Regulus	4,027 ,,	167,665	4,763 ,,	199,102	3,899 ,,	275,034
Tin and Tin Ore	4,968 ,,	467,653	4,961 ,,	525,420	4,809 ,,	582,496
Silver	1,015,433·50 oz.	197,544	177,307·75 oz.	32,458	375,064 oz.	66,668
Silver-lead and Ore	4,802·10 tons	294,485	12,530·15 tons	541,952	29,841·60 tons	1,075,737
Iron	3,685·85 ,,	19,068	2,707·40 ,,	14,543	3,747·00 ,,	23,721
Antimony and Ore	273·15 ,,	3,381	168·35 ,,	1,641	190·35 ,,	2,918
Asbestos	....	....	....	....	....	....
Bismuth	20·90 tons	3,870	36·55 tons	6,695	18·07 tons	3,911
Oxide of Iron	....	....	....	....	....	....
Zinc Spelter	....	....	....	....	....	....
Lead (Pig)	....	....	....	....	....	....
Limestone Flux	....	....	....	....	....	....
Opal	....	....	....	....	....	....
Manganese	....	....	....	....	....	....
Cobalt	....	....	....	....	....	....
Coke	....	....	....	....	....	....
Alunite	....	....	....	....	....	....
Fireclay	....	....	....	....	....	....
Lime	....	....	....	....	....	....
Marble	....	....	....	....	....	....
Stone (Building)	....	....	....	....	....	....
,, (Ballast)	....	....	....	....	....	....
Grindstones	....	....	....	....	....	....
Slates	....	....	....	....	....	....
Sundry Minerals	69 tons	5,327	1,431 tons	15,624	119 tons	3,438
	....	2,928,427	....	3,165,938	....	3,879,833

	1889.		1890.		1891.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
		£		£		£
Gold	119,759 oz.	434,070	127,760 oz.	460,284	153,336 oz.	558,306
Coal	3,655,632 tons	1,633,848	3,060,876 tons	1,279,088	4,037,929 tons	1,742,796
Shale	40,561 ,,	77,666	56,010 ,,	104,103	40,349 ,,	78,160
Copper and Regulus	4,182 ,,	206,641	3,745·90 ,,	173,311	4,525·55 ,,	205,093
Tin and Tin Ore	4,650 ,,	415,171	3,668·75 ,,	329,841	3,144·52 ,,	271,412
Silver	416,895·35 oz.	72,001	496,552·20 oz.	95,410	729,590·05 oz.	134,850
Silver-lead and Ore	81,545·30 tons	1,899,197	131,039·65 tons	2,667,144	147,779·70 tons	3,484,739
Iron	2,136·90 ,,	18,330	3,413·40 ,,	39,948	4,125·80 ,,	36,101
Antimony and Ore	221·40 ,,	3,344	1,026·00 ,,	20,240	914·85 ,,	22,057
Asbestos	....	....	....	....	....	....
Bismuth	42·50 tons	11,349	2·10 tons	306	·40 tons	500
Oxide of Iron	489·05 ,,	1,329	450·30 ,,	884	228·75 ,,	434
Zinc Spelter	96·85 ,,	988	210·45 ,,	2,378	218·60 ,,	2,622
Lead (Pig)	522·30 ,,	6,711	126·00 ,,	1,587	190·65 ,,	2,025
Limestone Flux	....	....	41,436·80 ,,	41,989	74,057·00 ,,	65,357
Opal	....	....	195 lb.	15,600	....	....
Manganese	....	....	100 tons	325	138·00 tons	340
Cobalt	....	....	....	....	1·15 ,,	470
Coke	....	....	31,097 tons	41,147	30,310·35 ,,	34,473
Alumite	....	....	220 ,,	3,000	704·00 ,,	1,888
Fireclay	....	....	....	....	16·80 ,,	55
Lime	....	....	....	....	410·00 ,,	958
Marble	....	....	....	....	635 pkg.	2,577
Stone (Building)	....	....	....	....	4,735 No.	5,205
,, (Ballast)	....	....	....	....	619 tons	713
Grindstones	....	....	....	....	471 No.	311
Slates	....	....	....	....	31,234 ,,	351
Sundry Minerals	95·75 tons	719	973·75 tons	7,252	788·95 tons	3,217
	....	4,780,364	....	5,283,840	....	6,655,010

	1892.		Total.			
	Quantity.	Value.	Quantity.	Value.		
		£		£		
Gold	156,870 oz.	569,178	1,191,674 oz.	4,332,277	....	....
Coal	3,780,968 tons	1,462,389	31,640,943 tons	14,066,877	....	....
Shale	74,197 ,,	136,079	437,889 ,,	887,633	....	....
Copper and Regulus	4,834·00 ,,	187,706	51,985·55 ,,	2,672,852	....	....
Tin and Tin Ore	3,492·00 ,,	314,114	40,777·67 ,,	4,667,852	....	....
Silver	350,661·00 oz.	56,884	4,526,404·60 oz.	851,270	....	....
Silver-lead and Ore	133,355·00 tons	2,420,952	552,383·25 tons	12,735,857	....	....
Iron	2,782·00 ,,	22,605	34,057·60 ,,	251,589	....	....
Antimony and Ore	728·00 ,,	14,680	4,624·25 ,,	84,570	....	....
Asbestos	....	....	6·00 ,,	90	....	....
Bismuth	14·00 tons	1,080	166·00 ,,	34,831	....	....
Oxide of Iron	453·00 ,,	869	1,621·10 ,,	3,516	....	....
Zinc Spelter	445·00 ,,	5,055	970·90 ,,	11,043	....	....
Lead (Pig)	71·00 ,,	726	909·95 ,,	11,049	....	....
Limestone Flux	103,368·00 ,,	93,031	218,861·80 ,,	200,037	....	....
Opal	42 lb.	2,000	237 lb.	17,600	....	....
Manganese	16·00 tons	47	254·00 tons	712	....	....
Cobalt	76·00 ,,	1,110	77·15 ,,	1,580	....	....
Coke	7,899·00 ,,	8,852	69,306·35 ,,	84,472	....	....
Alumite	821·00 ,,	3,284	1,745·00 ,,	8,172	....	....
Fireclay	35·00 ,,	80	51·80 ,,	135	....	....
Lime	403·00 ,,	822	813·00 ,,	1,780	....	....
Marble	....	....	635 pkg.	2,577	....	....
Stone (Building)	2,478 No.	2,838	7,213 No.	8,043	....	....
,, (Ballast)	224·00 tons	276	843·00 tons	989	....	....
Grindstones	....	....	471 No.	311	....	....
Slates	....	....	31,234 ,,	351	....	....
Sundry Minerals	92·25 tons	1,158	4,033·50 tons	45,534	....	....
	....	5,305,815	....	40,983,599		

GOLD.

The value of gold won in the Colony from the opening of our gold-fields to the end of 1892 amounts to £39,202,655 15s. 2d. The output in 1892 was 156,807 oz. valued at £569,177 17s. 4d. being £10,872 5s. 1d. in excess of the value of gold won in 1891, and being the largest of any year since 1876. From 1888 when the output was the smallest of any year since the discovery of gold in this Colony the quantity of gold has increased each year, whether this increase is due to the aid granted out of the vote for prospecting, and if so, to what extent, it is not possible to determine with any accuracy, but it may, I think, be fairly assumed that it has contributed in some degree, and had the prospectors, who, with the aid afforded them, have made discoveries, possessed in all cases the requisite enterprise, and been able to secure the necessary capital to develop the deposits, the results would have been much more definite and more satisfactory. There can, I think, be little doubt that we are not realising the full benefit of our gold-mines, and shall not, until we are able to extract and save all the gold contained in the ores we are treating, and that contained in ores we are not yet able to treat satisfactorily. Without desiring to appear too sanguine, I cannot help thinking that with the requisite knowledge and appliances we might increase our output of gold to such an extent that our gold-fields would become attractive to both capital and labour.

TABLE showing the Quantity and Value of Gold won in the Colony of New South Wales from 1851 to 1892.

Year.	Quantity in oz.	Value.			Year.	Quantity in oz.	Value.		
		£	s.	d.			£	s.	d.
1851 ...	144,120	468,336	0	0	1873 ...	361,784	1,395.175	8	7
1852 ...	818,751	2,660,946	0	0	1874 ..	270,823	1,040,328	13	6
1853 ...	548,052	1,781,172	0	0	1875 ...	230,882	877,693	18	0
1854 ...	237,910	773,209	0	0	1876 ...	167.411	613,190	7	9
1855 ...	171,367	654,594	0	0	1877 ...	124,110	471,418	4	4
1856 ...	184,600	689.174	0	0	1878 ...	119,665	430,033	2	7
1857 ...	175,949	674,477	0	0	1879 ...	109,649	407,218	13	5
1858 ...	286.798	1,104,174	12	2	1880 ...	118,600	441,543	7	7
1859 ...	329,363	1,259,127	7	10	1881 ...	149,627	566.513	0	0
1860 ...	384,053	1,465,372	19	9	1882 ...	140,469	526,521	12	5
1861 ...	465,685	1,806,171	10	8	1883 ...	123,805	458.508	16	0
1862 ...	640,622	2,467,779	16	1	1884 ...	107,198	395,291	12	5
1863 ...	466,111	1,796.170	4	0	1885 ...	103,736	378,665	0	3
1864 ...	340,267	1,304,926	7	11	1886 ...	101,416	366,294	7	7
1865 ...	320,316	1,231,242	17	7	1887 ...	110.288	394,578	16	3
1866 ...	290,014	1,116,403	14	5	1888 ...	87,503	317,099	12	0
1867 ...	271,886	1,053,578	2	11	1889 ...	119,759	434,070	8	4
1868 ...	255,662	994,665	0	5	1890 ...	127,760	460,284	16	2
1869 ...	251,491	974,148	13	4	1891 ...	153,336	558,305	12	3
1870 ...	240,858	931,016	8	6	1892 ...	156,870	569,177	17	4
1871 ...	323,609	1,250,484	15	11					
1872 ...	425,129	1,643,581	16	11		10,530,322	39,202,655	15	2

The geological survey of the country along the Shoalhaven River is progressing satisfactorily, and when complete it is hoped with the information available concerning the alluvial deposits along the banks of the river, coupled with the data which Mr. H. G. McKinney, the Chief Engineer of Water Conservation, will be able to furnish, respecting the facilities for securing a water supply capable of operating upon such deposits, that this portion of the Colony will be very attractive to both capitalists and miners.

I am indebted to E. O. Haywood, Esq., the Acting Deputy Master of the Royal Mint, for the following information:—

QUANTITIES of Gold, the produce of New South Wales, received into the Royal Mint, Sydney, during 1891 and 1892 compared.

District.	Division.	1891.	1892.	Increase.	Decrease.
		oz.	oz.	oz.	oz.
Bathurst	Bathurst	3,370·97	805·13	....	2,565·84
	Carcoar	2,044·20	2,063·64	19·44	....
	Orange	1,678·60	12,708·00	11,029·40	....
	Trunkey Creek	49·85	74·25	24·40	....
	Tuena	479·14	324·39	....	154·75
	Mount M'Donald	610·24	314·18	....	296·06
Tambaroora and Turon	Hill End	1,160·12	1,624·34	464·22	....
	Tambaroora	389·46	277·23	....	112·23
	Sofala	91·51	396·19	304·68	....
	Stony Creek	28·21	216·85	188·64	....
Mudgee	Mudgee	2,045·71	2,761·79	716·08	....
	Gulgong	1,389·09	694·23	....	694·86
	Hargraves	....	73·28	73·28	....
	Wellington	526·28	341·74	....	184·54
Lachlan	Parkes	9,661·48	7,303·21	....	2,358·27
	Forbes	33·15	51·01	17·86	....
	Grenfell	470·76	667·50	196·74	....
	Young	601·65	344·44	....	257·21
	Temora	349·35	136·40	....	212·95
Albert	Wilcannia	1,513·79	775·35	....	738·44
Southern	Goulburn	115·10	41·46	....	73·64
	Braidwood	3,017·80	1,607·73	....	1,410·07
	Bermagui	80·55	206·76	126·21	....
	Araluen	....	....	....	....
	Shoalhaven	2,982·92	3,264·30	281·38	....
	Nerrigundah	486·26	739·38	253·12	....
Tumut and Adelong	Adelong	4,478·01	3,675·70	....	802·31
	Tumut	141·69	173·60	31·91	....
	Cootamundra	46·92	149·24	102·32	....
	Tumbarumba	1,197·96	1,094·44	....	103·52
	Gundagai	501·98	192·48	....	309·50
	Cooma	518·70	356·98	....	161·72
	Kiandra	188·39	24·23	....	164·16
	Wagga Wagga	....	....	....	....
Peel and Uralla	Armidale	27,893·49	30,065·17	2,171·68	....
	Rocky River	455·78	124·28	....	331·50
	Nundle	1,023·85	22·70	....	1,001·15
	Tamworth	1,088·28	1,434·79	346·51	....
	Bingera	479·59	385·69	....	93·90
Hunter and Macleay	Copeland	39·57	204·95	165·38	....
Clarence and Richmond	Grafton	691·01	918·48	227·47	....
New England	Tenterfield	1,326·87	575·75	....	751·12
Mixed	Western, Northern, and Southern	27,468·87	31,513·88	4,045·01	....
Localities unknown	....	41,753·08	35,534·34	....	6,218·74
	Total	142,470·23	144,259·48	20,785·73	18,996·48

SUMMARY.

District.	1891.	1892.
	oz.	oz.
Bathurst	8,233·00	16,289·59
Tambaroora and Turon	1,669·30	2,514·61
Mudgee	3,961·08	3,871·04
Lachlan	11,116·39	8,502·56
Albert	1,513·79	775·35
Southern	6,682·63	5,859·63
Tumut and Adelong	7,073 65	5,666·67
Peel and Uralla	30,940·99	32,032·63
Hunter and Macleay	39·57	204·95
Clarence and Richmond	691·01	918·48
New England	1,326·87	575·75
Mixed—Western, Northern, and Southern	27,468·87	31,513·88
Localities unknown	41,753·08	35,534·34
	142,470·23	144,259·48

From the above table it will be seen that the quantity of gold sent to the Mint during 1892 exceeds the quantity so sent in 1891 by only 1,789·25 oz. The greatest increase in 1892 was from the Orange district, due no doubt to the operations of the companies on the Wentworth Estate at Lucknow, the next largest is from Armidale, due probably to the mines at Baker's Creek, the largest decreases are in the returns from Bathurst and Parkes.

The following table is compiled from information kindly furnished by the Collector of Customs :—

EXPORT OF GOLD, 1892.

Gold.		Quartz Tailings and Pyrites.		Total.	
Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
oz.	£		£	oz.	£
3,003	11,486	5,451 packages ...	34,826	12,610	46,312

The quantity of gold sent to the Mint, plus the quantity exported, represents, for the year 1892, the quantity of gold won, as none of the gold that passed into the Mint during that year was exported. Thus the gold sent to the Mint, 144,259·48 oz., plus the quantity exported, 12,610 oz., equals 156,869·48 oz. It is worthy of remark, that while in 1891 the Proprietary Company, at Broken Hill, extracted 5,277 oz. of gold from their silver mine, they return no gold for 1892.

The returns furnished by the Mining Registrars of the gold won in their respective districts, show 7,852 oz. in excess of the quantity sent to the Mint, but 4,758 oz. less than the total output.

RETURNS of Gold for 1892 from Mint and Mining Registrars compared.

District.	Mint.	Mining Registrars.	Excess.	Deficiency.
	oz.	oz.	oz.	oz.
Bathurst	16,289·59	23,703·81	....	7,414·22
Tambaroora and Turon	2,514·61	11,259·87	....	8,745·26
Mudgee	3,871·04	17,077·60	....	13,206·56
Lachlan	8,502·56	12,473·60	....	3,971·04
Albert	775·35	919 61	....	144·26
Southern	5,859·63	16,755·11	....	10,895·48
Tumut and Adelong	5,666·67	7,837·54	....	2,170·87
Peel and Uralla	32,032·63	48,807·22	....	16,774·59
Hunter and Macleay	204 95	1,684·84	....	1,479·89
Clarence and Richmond	918·48	5,198·08	....	4,279·60
New England	575·75	4,032·00	....	3,456·25
Cobar	....	2,362·20	....	2,362·20
Mixed—North, South, and West	31,513·88	....	31,513·88	....
Localities unknown	35,534·34	....	35,534·34	....
	144,259·48	152,111·48	67,048·22	74,900·22
				67,048·22
The Returns from Mining Registrars exceed Returns from Mint by				7,852 oz.

The Mining Registrars returns show an increase of 2,066 oz. in 1892 as compared with 1891:—

MINING Registrars Returns of Gold for 1891 and 1892 compared.

District.	1891.	1892.	Increase.	Decrease.
	oz.	oz.	oz.	oz.
Bathurst	17,923	23,704	5,781	....
Tambaroora and Turon	10,337	11,260	923	....
Mudgee	16,003	17,078	1,075	....
Lachlan	22,494	12,474	....	10,020
Albert	8,979	920	....	8,059
Southern	14,152	16,755	2,603	....
Tumut and Adelong	9,640	7,837	....	1,803
Peel and Uralla	39,970	48,807	8,837	....
Hunter and Macleay	203	1,685	1,482	....
Clarence and Richmond	3,221	5,198	1,977	....
New England	4,488	4,032	....	456
Cobar	2,636	2,362	....	274
	150,046	152,112	22,678	20,612
Less Decrease	....	....	20,612	
Increase in yield for 1892...			2,066	

The following statement of yields from alluvial mines is far from satisfactory, but the Registrars say it is most difficult to obtain any information concerning the yields from these mines, as the owners rarely keep any account of the quantity of earth treated. The parcels included in the statement, with the exception of those from the Lachlan and the Hunter and Macleay districts, are the result of sluicing operations.

Comparative Statement of Average Yields from Alluvial Mines for 1891–92.

District.	1891.							1892.						
	Quantity.	Average per ton.			Yield of Gold.			Quantity.	Average per ton.			Yield of Gold.		
	Loads.	oz.	dwt.	gr.	oz.	dwt.	gr.	Loads.	oz.	dwt.	gr.	oz.	dwt.	gr.
Lachlan	18,066	0	12	16	11,465	0	0	5,004	0	3	2	969	2	12
Mudgee*	6,570	0	8	17	2,860	0	0	....	....			....		
Southern	7,075	0	1	17	613	0	0	60,000	0	0	1	170	0	0
Hunter and Macleay*	....	....			....			50	0	12	0	30	0	0
Tumut and Adelong*	....	....			....			5,541	0	0	1	133	17	1
Peel and Uralla*	....	....			....			126,517	0	0	2	504	15	0
	31,711	0	9	10	14,938	0	0	197,112	0	0	4	1,807	14	13

* Yield could not be ascertained.

The following statement gives the results of parcels of stone from certain quartz mines in the several districts. The returns from these mines are more complete than usual, and I trust this may be taken as an indication that the mine owners are giving more attention to keeping proper records of the stone treated. The average yield is not only very satisfactory, but it is an improvement upon previous years.

Comparative Statement of Average Yields from Quartz-mines for 1891–92.

District.	1891.									1892.								
	Quantity.			Average per ton.			Yield of Gold.			Quantity.			Average per ton.			Yield of Gold.		
	Tons.	cwt.	qr.	oz.	dwt.	gr.	oz.	dwt.	gr.	Tons.	cwt.	qr.	oz.	dwt.	gr.	oz.	dwt.	gr.
Bathurst	10,433	0	0	0	11	21	6,221	0	0	9,980	0	0	1	17	8	18,637	11	0
Tambaroora and Turon	6,683	0	0	0	16	8	5,461	0	0	6,466	0	0	0	17	0	5,499	1	19
Lachlan	3,296	0	0	0	8	0	1,320	0	0	10,292	0	0	0	14	14	7,513	6	2
Southern	1,255	0	0	0	19	4	1,204	0	0	4,829	0	0	1	7	18	6,699	3	17
Tumut and Adelong	1,521	0	0	1	5	23	1,975	0	0	2,409	0	0	1	0	7	2,445	16	12
Peel and Uralla	29,148	0	0	1	4	3	35,170	0	0	39,778	0	0	0	19	17	39,247	1	11
Hunter and Macleay	53	0	0	1	18	11	102	0	0	240	0	0	1	13	7	399	16	0
Clarence and Richmond	2,069	0	0	1	1	4	2,190	0	0	1,420	0	0	1	18	12	2,024	6	3
New England	110	0	0	2	10	13	278	0	0	2,078	0	0	1	4	9	2,532	10	0
Mudgee	8,657	0	0	0	12	19	5,537	0	0	17,804	0	0	0	13	2	11,648	16	0
Cobar	2,534	0	0	0	12	6	1,555	0	0	3,927	0	0	0	8	18	1,722	4	4
	65,759	0	0	0	18	13	61,013	0	0	99,223	0	0	0	19	19	98,369	12	20

Dividing the quantity of gold won by the number of gold miners gives the result 17·33 oz. per man, and dividing the value of the gold won by the number of miners gives nearly £62 18s., as the earnings for the year of each miner, being £11 8s. 3d. in excess of the earnings per man in 1891.

During the year 3,147 samples were assayed for gold in the Laboratory of this Department.

1,706 yielded Nil.
1,048 yielded under 10 dwt. per ton.
393 yielded as follows:—

Locality.	Description.	Per ton.					
		Gold.			Silver.		
		oz.	dwt.	gr.	oz.	dwt.	gr.
Albury (7 miles from)......	Mispickel in quartz and felspathic veinstone ...	2	10	1	1	1	18
,, (near Nine-mile Reserve)................	Pyritous quartz	2	17	17	0	5	5
	Slightly ferruginous quartz	3	8	13	0	4	13
	Quartz, with mispickel..............................	9	14	0	2	5	1
Armidale (15 or 16 miles from).	Stibnite	0	15	4	1	8	6
Ballina (near Little River).	Concentrated sand containing tin oxide, platinum, and gold. (Platinum 2 oz. 19 dwt. 16 gr.)	6	13	22	Tin. 17·24 p. cent.		
,, ...	Sand (½ lb. concentrated from 17 lb.) (Platinum 14 dwt. 7 gr.)	0	12	7	....		
,, ...	Beach sand. (Platinum 5 dwt. 6 gr.)	0	15	12	....		
,, ...	Quartz, with a little galena and pyrites	1	6	2	3	5	8
Bathurst	Quartz, with a few specks of mispickel.....	0	17	9	13	5	14
,, (10 miles from)..	Ferruginous cavernous quartz........................	2	5	17	1	8	6
Burrowa (2 miles N.E. of).	Ironstone...........	22	4	6	18	12	9
,, (32 miles from)...	Ferruginous quartz	2	18	18	0	4	8
Bingera	Serpentinous rock	11	19	12	2	3	13
Blayney District (Wangoola Station).	Grey sulphide with a little green carbonate of copper.	2	14	10	6	10	16
Blayney (1 mile from) ..	Ferruginous gossan	7	14	14	5	8	21
,, (near)	Creek sand	5	2	8	1	14	20
Byrock	Slate with quartz veins, carrying limonite after pyrites.	0	10	21	0	7	14
Braidwood (near Bell's Ck.)	Ferruginous granite	3	9	16	1	19	4
,, ,, ..	,, quartz	3	11	20	0	15	4
,, District	Quartz, with pyrites and galena	2	1	18	2	10	0
,, ,, ...	Granite rubble	1	3	22	0	4	8
,, (6 miles E. of)..	Ferruginous saccharoid quartz	0	15	2	0	4	8
Bundarra	Quartz, with galena, zinc blende, and copper pyrites.	0	17	9	4	15	9
Bluff (Moss Rose Reef), Ophir.	Ferruginous quartz	5	8	21	36	9	13
Boonoo Boonoo	Quartz, with pyrites, galena, blende, and felspar	0	10	21	10	6	21
,, ...	Crushed sample	4	2	17	43	15	10
,, ...	,, ...	4	18	0	54	8	21
Barringarry (4 miles from Moss Vale).	Quartz, with iron pyrites	33	4	2	10	6	21
Boomey	Ferruginous quartz	2	3	13	3	11	20
Bonshaw	,, ...	18	10	5	4	11	10
Back Creek	Arsenical pyrites, with quartz	0	10	21	0	4	8
Bulladelah District	Ferruginous pyritous quartz	0	19	11	0	4	8
Bredbo	,, cavernous quartz..	7	14	13	6	1	21
Broken Head (near Byron Bay).	Beach sand. (Platinum 3 oz. 4 dwt.)	2	4	22	....		
Bombala (near Bibbenluke)	Concentrated pyrites	3	15	3	0	9	4
Bungendore (near Mount Mulloon).	Pyritous quartz	2	3	13	0	15	2
Bourke (30 miles N.W. of Mount Drysdale).	Slate, with quartz veins	1	1	18	0	6	12
Cargo	Ferruginous quartz	4	13	14	1	6	2
,, ...	,, with a little pyrites	0	11	20	0	5	10
,, (1½ mile from)	,, with a little galena	9	13	19	3	11	20
,, ...	Crushed ferruginous quartz.............................	0	19	11	0	7	14

Locality.	Description.	Per ton.					
		Gold.			Silver.		
		oz.	dwt.	gr.	oz.	dwt.	gr.
Cooma District	Ferruginous quartz	12	10	10	2	14	10
,, (Cowra Ck.)	,,	2	17	16	0	5	10
,, ,,	,,	1	11	13	0	5	10
,, ,,	,,	6	12	20	0	15	4
,, ,,	Quartz, with mispickel	2	18	18	0	4	8
,, ,,	Ferruginous quartz	4	2	17	0	6	12
,, ,,	,, with schist	0	10	21	0	4	8
,, ,,	Crushed sample of ironstone	1	19	4	0	8	16
,, ,,	Cavernous limonite	2	7	21	0	6	12
,, ,,	Concentrated pyrites	31	13	16	0	19	11
,, ,,	Pyritous quartz, with slate	1	19	4	0	4	8
,,	Ferruginous quartz	2	14	10	0	10	20
,,	Cavernous quartz	0	19	11	0	2	4
,,	Ferruginous gossan	1	18	2	2	17	6
,,	Crushed sample	0	15	2	0	3	6
Condobolin (near)	Ferruginous cavernous quartz, showing free gold	27	15	4	6	19	16
,, (3 miles from)	Ferruginous quartz	18	8	1	22	19	1
,,	,,	1	17	0	1	6	2
,, (near)	Porous ferruginous quartz	737	3	13	144	16	10
,, (2½ miles N.E. of)	Ferruginous, cavernous, pyritous quartz	9	0	17	3	7	12
,, (2½ miles N. of)	Concentrates	1	18	2	0	16	6
,, (near)	Ferruginous quartz	3	7	12	1	8	6
Clarence River	Beach sand	1	12	6	0	19	12
,, District	Quartz, with galena, blende, and mispickel	16	17	10	26	13	0
Cobar (1½ miles east of)	Ferruginous quartz and felspathic breccia	1	7	4	2	2	11
,, (near Fort Bourke Tunnel).	Ferruginous quartz	2	5	17	0	6	12
Cobra (Parish of)	,, cavernous quartz	2	10	1	1	3	22
Caleula (near)	,, ,, pyritous quartz	0	17	9	0	4	8
Capertee (23 miles from)	Quartz, with sulphide and a little oxide of antimony.	4	13	14	0	6	12
Cootamundra (12 miles from)	Ferruginous granular quartz	8	18	13	3	3	3
,, ,,	,, cavernous, felspathic material	2	3	13	0	18	21
,, (14 miles from)	,, felspathic rock	0	19	12	0	4	8
Cullingar (Gundabingle)	Pyromorphite, with free gold	122	1	3	0	8	12
,, (Spring Flat)	Siliceous felspathic rock	0	18	8	0	5	10
,, ,,	Ferruginous quartz veinstone	11	19	12	2	3	12
,,	Siliceous felspathic veinstone	1	18	2	0	18	10
Copeland (20 miles from Cobark).	Ferruginous quartz, showing free gold	1	12	6	0	3	6
Copeland	Quartz, with a little pyrites and mispickel	3	11	20	0	15	2
Carcoar (near The Three-mile).	Blanketings	0	10	21	0	6	12
Camden Haven	Crystallised pyrites in talc	0	12	22	2	14	10
Coff's Harbour	Quartz, and felspathic veinstone	0	12	22	0	4	8
Cowra (near)	,, ,, material, with a little galena.	1	17	0	80	18	0
Cowra District	Concentrated pyrites	9	7	6	0	10	21
,,	Concentrates	0	16	4	0	19	11
Coolongolook	Quartz, with a little pyrites	1	12	16	0	14	0
Camden District	Ferruginous quartz	0	10	21	4	18	10
Dalmorton (near)	,, showing free gold	17	6	3	3	5	8
,, (near Mt. Surprise)	Quartz, with a little pyrites	6	14	23	3	7	12
,,	,,	4	2	17	0	8	17
,, District	Concentrated iron and arsenical pyrites	17	4	13	2	4	1
,, ,,	,, pyrites	18	1	12	3	1	12
,, ,, (Mt. Poole)	Crushed quartz	5	2	8	1	8	6
,, ,,	Tailings	0	14	0	0	5	10
,, ,,	Pyritous blanketings	5	8	21	0	19	11
Deepwater ,,	Ferruginous quartz	2	7	21	57	9	20
Drake	,, and felspathic veinstone	21	1	18	1	7	4
,,	Ferruginous quartz	2	3	13	0	8	17
,,	,,	3	16	5	0	17	9

Locality.	Description.	Per ton.					
		Gold.			Silver.		
		oz.	dwt.	gr.	oz.	dwt.	gr.
Drake	Ferruginous quartz	0	13	0	0	18	16
,,	,,	2	17	16	0	7	14
,,	,, with clay	23	1	16	1	1	18
,,	Very ,, ,,	4	4	20	0	5	10
,,	Tailings	0	14	3	0	7	14
,,	Quartz, with cubes of limonite after pyrites	2	1	8	0	4	8
,,	Concentrates	7	10	6	9	12	22
,, (Barker's Reef)	Quartz, with copper pyrites and a little blende	1	12	16	3	5	8
,, ,,	Concentrated copper pyrites with quartz	9	18	4	3	3	3
,, ,,	,, ,,	40	8	12	4	9	20
,, ,,	Copper pyrites, in quartz	1	12	16	3	16	5
,,	Ferruginous quartz, showing free gold	770	0	22	46	12	0
,, (Gough's Gully)	Quartz, with pyrites	15	12	12	5	9	15
,, (Mt. Carrington)	Tailings	3	10	18	0	16	4
,, ,,	Slimes	4	4	15	1	7	4
Deep Creek	Mispickel	0	15	4	0	13	0
,,	,, with felspar	1	6	2	0	9	19
,,	Crushed quartz, with arsenical and iron pyrites	1	1	18	15	0	12
Darling River (south bank)	Sandy clay	1	7	4	0	5	10
Dromedary (near Eden)	Ferruginous quartz and clay	6	10	16	0	15	2
,, ,,	Concentrated pyrites	10	5	19	6	14	23
Fairfield (near)	Ferruginous cavernous quartz	10	1	9	1	18	2
,, (Mt. Carrington)	Concentrated pyrites	8	14	5	2	3	13
Gulgong District (Buckley Reef).	Pyritous quartz, a little gold showing	13	12	4	2	3	13
Gulgong	Concentrates	1	12	16	0	5	10
Grafton	Quartz, with galena and a little protoxide of lead	17	19	8	29	18	20
,, near (Cangi)	Pyritous sand	4	12	13	5	12	0
,, District	,, blanketings	12	1	16	1	8	6
Greenmantle (near Lyndhurst).	Pyritous granular quartz	0	16	4	0	9	18
Galley Swamp, near Carcoar (Homeward Bound Mine).	Blue quartz, with iron, arsenical and copper pyrites.	2	14	10	0	19	11
Grenfell (near)	Quartz rubble	0	13	0	0	3	22
,, (12 miles from)	Ferruginous quartz	1	18	2	0	1	2
,, (7 ,,	,, ,,	3	16	5	5	15	9
,,	Concentrated pyrites, with quartz sand	1	19	4	0	4	8
Glen Innes District	Pyritous quartz	6	10	16	1	10	11
,, ,,	,,	5	8	21	0	8	17
,, ,,	Concentrated pyrites	38	7	14	7	6	22
,, ,,	Kaolin, with quartz fragments	1	1	18	0	10	22
,, ,,	Quartz fragments, with carbonate of bismuth	1	3	22	4	4	22
,, ,,	Concentrated pyrites	20	4	18	1	19	14
,, ,,	,,	11	15	4	8	9	20
,, ,,	Pyritous quartz	2	16	14	2	1	18
,, ,,	,,	1	1	18	0	10	21
,, ,,	,,	0	19	11	0	10	21
,, ,,	,,	2	5	16	1	8	6
Glanmire (near)	Tailings	0	11	23	1	8	7
Gloucester	Ferruginous quartz	8	3	7	1	6	2
Goulburn (near)	,, and slate	5	8	21	0	4	8
,,	Sand	5	19	15	1	12	16
Glen Elgin	Pyritous quartz	3	16	5	0	15	2
Garland (near Fernside)	Quartz, with arsenical pyrites	2	7	21	5	4	12
Hillgrove	Stibnite in quartz veins	3	16	5	3	14	0
,, (2 miles from)	Ferruginous crystalline quartz	2	3	13	0	8	17
Hartley (near)	Concentrates	0	15	0	1	1	13
Hanging Rock (nr. Nundle)	Limonite after pyrites	0	14	0	0	3	6
Inverell	Galena, mispickel, and copper pyrites in felspathic material.	1	1	18	21	19	21
,,	Mispickel, with felspathic material	7	1	13	0	10	21
,, (near) Parish of Gum Flat.	Ferruginous quartz breccia	5	13	5	3	0	22

Locality.	Description.	Per ton.					
		Gold.			Silver.		
		oz.	dwt.	gr.	oz.	dwt.	gr.
Kiama	Ilmenite, quartz, and zircon sand	0	10	10	0	9	5
King's Plains (near Blayney).	Ferruginous and felspathic veinstone, with cubical cavities formed by decomposition of iron pyrites.	1	6	2	0	10	21
Lucknow	Quartz, with sulphides of zinc, iron, and lead	1	12	6	7	10	6
Long Creek Gully, Lady Jersey Claim, Drake.	Sulphides of copper, zinc, and iron	2	5	17	7	5	21
,, ,,	Blanketings	1	1	18	0	12	22
,, ,,	Tailings	2	1	9	1	9	8
Michelago	Ferruginous quartz	9	15	23	0	6	12
Mount Victoria (near)	Quartz and felspathic veinstone, with arseniate and arsenide of iron.	0	15	12	0	6	12
Mount Hope District	Magnetite	1	1	18	0	6	12
,, (12 miles from)	Tailings	0	14	0	0	4	8
,, (near)	Ferruginous quartz	0	15	2	0	4	8
Mount M'Donald (Milburn Creek)	,, pyrites	9	13	19	0	15	2
,, ,,	,, gossan	1	7	4	1	18	2
,, (near Scrubby Rush).	Vitreous quartz, with a little chlorite	0	12	22	0	3	6
Mount Gray	Ferruginous quartz, pyrites and free gold present	1	17	0	0	3	12
,,	Ferruginous quartz, free gold showing	4	7	2	0	7	9
,,	Rubble	0	12	22	0	4	2
,,	,,	0	11	20	0	4	8
Mount Poole	Quartz, with free gold and a little arsenical pyrites.	38	10	20	3	0	22
Mount Billagoe	Felsite, with quartz veins	2	14	10	0	7	14
Moruya	Sand	1	11	13	3	17	7
Mandurama (near)	Quartz and felspathic veinstone, with a little mispickel.	1	1	18	0	6	12
,, ,,	Thin quartz veins	2	14	10	0	10	21
,, Burnt Yards	Concentrates	0	17	21	1	2	7
,,	Pyrites, with quartz	7	4	19	1	5	0
Mogo District	Ferruginous quartz	11	10	20	2	12	6
,,	Quartz, with a little felspar veinstone	3	10	21	0	4	8
,,	Tailings	0	15	5	1	10	11
,,	,,	0	17	6	1	8	7
,,	,,	0	15	5	0	7	14
,,	,,	1	9	8	1	7	4
,,	,,	0	19	11	0	4	8
,,	,,	0	19	11	0	9	17
,,	,,	0	12	22	trace.		
,,	Slimes	0	15	2	0	4	8
,,	Concentrates	12	19	17	0	18	3
,,	Tailings	0	15	5	0	14	3
,,	,,	1	2	21	0	5	13
,,	,,	1	9	14	0	3	10
,,	,,	1	2	15	0	6	22
,,	,,	2	9	3	0	5	5
,,	,, with mercury from skimmings from wells and tables.	38	14	9	2	2	4
,, (Bimbimbie Creek).	Quartz	11	14	2	1	1	18
,, ,,	,,	16	6	16	2	6	19
,, ,,	,,	0	13	0	0	6	12
,, ,,	,,	5	2	8	0	10	21
,, ,,	Crystalline pyrites	12	1	16	0	15	2
Mogo (Kelly's Creek)	Quartz	1	12	16	0	6	12
,, (3½ miles north)	Ferruginous quartz	4	11	10	0	17	10
,, 5 ,,	Quartz and felspar rubble	1	6	2	0	8	17
,, ,, ,,	Ferruginous quartz	3	2	0	0	19	11
,, ,, ,,	,, pyritous quartz	6	1	19	1	8	6
,, ,, ,,	,, ,, ,,	4	13	14	1	7	4
,, ,, ,,	,, quartz, with a little pyrites	1	18	2	0	14	0

Locality.	Description.	Per ton.					
		Gold.			Silver.		
		oz.	dwt.	gr	oz.	dwt.	gr.
Mogo (north of)	Ferruginous quartz	31	8	10	0	11	18
Mogo (Bimbimbie Creek)	Quartz rubble	4	10	8	0	18	10
,, ,,	Slightly ferruginous quartz	7	8	0	0	8	16
,, ,,	Quartz and pug	32	2	10	0	10	21
,, ,,	,, rubble, with a little clay	14	7	10	0	17	8
,, ,,	,, ,,	7	8	0	0	10	21
,, ,,	Crushed quartz	4	18	0	0	7	0
,, ,,	,, ,,	4	3	20	0	7	14
,, ,,	Quartz, with a little pyrites	1	1	18	0	4	8
,, Mine	Tailings	0	16	6	0	2	17
,, (1½ mile south of)	Ferruginous quartz	1	19	4	0	8	6
,,	Tailings	0	10	21	0	3	6
,, (Sandy Creek)	Ferruginous pyritous quartz	2	7	20	0	17	9
,, ,,	,, micaceous quartz	2	14	10	0	6	12
,, ,,	Pyritous quartz	2	16	14	1	1	18
,, ,,	,, ,,	8	1	3	2	5	17
,, ,,	Quartz rubble	0	16	4	0	3	6
,, ,,	Tailings	0	12	22	0	3	6
,, ,,	Concentrates	14	8	12	5	5	14
,, ,,	,,	10	1	10	0	8	16
Mudgee (Parish of)	Quartz, with pyrites	0	17	9	0	6	12
,, (16 miles from)	Pyrites, with galena	0	14	0	63	10	18
,, District (Rats' Castle).	Quartz	0	15	2	0	4	8
Macleay River (Crescent Head).	Beach sand	1	12	16	0	6	12
Mann River	Ferruginous quartz	6	19	8	1	3	22
,, (Moss Rose Reef)	,, ,,	5	8	21	36	9	13
,, ,,	Quartz, with specks of sulphides of zinc, copper, and iron.	1	6	2	8	5	11
,,	Quartz, with sulphides of iron, lead, and zinc...	12	19	3	7	18	22
,,	Crushed quartz	3	5	8	1	3	22
,,	Quartz, showing free gold	18	14	12	1	10	11
Milburn Creek	Ferruginous, cavernous quartz veins in schist ..	0	17	9	0	8	16
Molong District	Micaceous felspathic rock, with a little pyrites	0	19	11	39	17	1
,,	Ferruginous cavernous quartz	1	19	4	0	10	21
Marulan	Quartz	3	5	8	0	15	2
Macksville (near Bald Hill)	,, and iron arseniate, with specks of mispickel.	0	10	21	3	9	16
Mitchell's Creek	Ferruginous quartz, with copper pyrites and copper carbonate.	0	12	22	3	3	3
Manning River	Concentrated beach sand	1	14	16	3	18	8
Nibbler's Hill	Ferruginous, siliceous gossan	2	5	17	0	12	22
Niangla	Quartz tailings	0	11	3	0	3	6
,,	Concentrates	23	11	12	4	7	2
,,	Blanketings	1	7	5	1	12	15
Nambucca River (near Macksville).	Stibnite	1	10	11	5	11	1
Nambucca River	Mispickel	5	8	21	0	16	4
,,	,,	8	3	7	3	3	3
,,	,, in pyritous felspathic gangue	1	17	0	1	12	16
,,	Quartz, with mispickel	0	10	21	1	6	2
Newbridge (near Sugar-loaf Hill).	Concentrates	0	17	23	0	9	6
Newbridge	Quartz, with blende, pyrites, and slate	0	15	2	27	8	18
,,	,, vein, with specks of pyrites, galena, and blende.	1	1	18	43	13	6
,,	Ferruginous quartz	3	9	16	60	15	0
,,	,, ,, showing coarse, free gold	3	18	8	0	6	12
Nundle	,, siliceous gossan	2	10	1	0	6	12
Newton Boyd	,, quartz	2	5	17	0	15	2
,,	,, ,,	4	7	2	1	1	18
Nerriga	,, ,,	2	7	21	0	6	12

Locality.	Description.	Per ton.					
		Gold,			Silver.		
		oz.	dwt.	gr.	oz.	dwt.	gr.
Nerriga	Quartz	2	1	9	0	10	21
,,	Cavernous quartz, with oxide and a little sulphide of lead.	8	16	9	2	7	21
Nelligen (7 miles W. of)	Quartz, with mispickel	0	13	22	0	4	8
Nana Creek (near)	Ferruginous quartz	0	10	21	0	2	4
,, ,,	,, ,,	0	17	19	0	4	8
,, ,,	,, ,,	6	3	23	0	6	12
,, ,,	Gossan, with a little galena and pyrites	7	12	10	0	6	12
Oban	Quartz, with a little mispickel	4	1	15	1	13	18
Ophir District (The Bluff)	Pyritous quartz	11	10	16	3	5	8
,, ,,	,, ,, with slate casing	4	18	0	0	15	2
Orange (near)	,, ,, vein	0	17	9	0	4	8
Oberon	Massive pyrites	0	17	9	1	6	2
,, (11 miles from)	Quartz, with mispickel and a few speeks of galena.	0	16	14	3	19	6
Peak Hill (1½ mile from)	Quartz veins in slate	1	14	20	0	8	17
,,	Cavernous ferruginous quartz	0	16	4	0	5	10
,, Proprietary	Grey sulphide of copper	0	10	21	0	5	10
,, Crown of the Peak	Pyritous quartz and talcose schist	2	6	6	0	13	14
,, ,,	,, ,,	7	15	16	0	15	2
,, ,,	,, with grey sulphide of copper and talcose schist.	46	5	12	1	7	4
,, ,,	Ferruginous talc schist, with quartz veins	0	17	9	0	4	8
,, ,,	Pyritous and talcose veinstone, with a little grey sulphide of copper.	5	8	21	0	6	12
,, ,,	,, ,, ,, ,,	0	11	20	0	4	8
,, ,,	,, ,, ,, ,,	1	14	20	0	6	12
,, ,,	,, ,, ,, ,,	1	1	18	0	4	8
,, ,,	Pyritous and talcose veinstone (rubble)	0	18	8	0	3	6
,, ,,	Concentrated pyrites	1	9	9	0	9	18
Pambula District (Burragorang Mine).	Pyritous breccia	2	7	21	0	6	12
Pambula	Laminated siliceous felspathic stone	1	1	18	0	4	8
,,	,, ,, ferruginous stone	3	7	12	0	6	12
,,	Tailings	4	5	9	0	15	6
,,	Pyritous quartz	4	4	22	0	4	8
,,	Pyritous, quartz veinstone	0	15	2	2	1	9
,, (District)	Brecciated material	1	1	18	0	10	21
,, (3 or 4 miles from)	Felsite, with quartz veins, carrying arsenical pyrites.	0	10	21	0	4	8
Parkes District	Ferruginous quartz	0	17	9	0	6	12
,,	White quartz, with a little pyrites and free gold	7	13	21	1	3	22
,,	Tailings	1	18	2	0	6	12
Queanbeyan	Mispickel in ferruginous quartz	5	1	3	0	1	2
,,	Ferruginous quartz rubble	0	19	11	0	2	4
Richmond River	Platinum-bearing sand (concentrated)	81	9	20	....		
,,	Sand (gold and platinum bearing)	2	10	0	....		
,,	Concentrated beach sand, showing gold and tin oxide.	2	15	6	1	9	6
,,	Beach sand	0	14	9	....		
,, (Evans' Head)	,, (concentrated). (Platinum 21 oz. 17 dwt. 16 gr.)	13	7	20	....		
,,	Beach sand. (Platinum 2 oz. 8 dwt. 6 gr.)	0	10	5	....		
Rye Park	Ferruginous quartz	3	5	8	1	14	20
Reedy Creek	Quartz and black felspathic material	0	11	20	0	3	6
Rockley (5 miles E. of)	Quartz	13	12	4	0	8	17
Sofala District (Wattle Flat).	Mispickel, in brown iron ore	91	0	14	8	14	5
Sofala	Concentrated pyrites	3	2	1	0	8	14
Swamp Oak	,,	13	8	22	4	2	17
,,	Crushed material	1	19	4	0	15	2
,,	Blue quartz, with a little mispickel	5	15	9	1	3	22
,,	Quartz, with mispickel	2	12	6	0	8	17

Locality.	Description.	Per ton.					
		Gold,			Silver.		
		oz.	dwt.	gr.	oz.	dwt.	gr.
Swamp Oak	Blanketings	4	9	6	1	5	0
,,	,,	4	1	16	1	1	18
,,	Quartz, with a little arsenical and iron pyrites	5	8	21	1	1	18
,,	,, with arseniate of iron	0	19	11	5	2	8
,, (near)	,, with mispickel	0	19	11	0	4	8
,, ,,	,, with a little mispickel and free gold	17	19	8	5	8	21
,, ,,	,, ,, ,, ,,	19	14	4	5	15	9
Solferino	Quartz, with blende and pyrites	15	0	12	7	10	2
Shoalhaven District (Sim's Gully).	Ferruginous quartz	0	11	20	0	3	6
,, ,,	Galena, blende, and a little copper and iron pyrites.	6	3	23	2	7	21
Scrubby Rush (near Cowra)	Clay slate, with ferruginous quartz veins	1	17	0	1	12	16
Stewart Town	Tailings	0	10	21	0	17	9
,,	Pyritous quartz	0	11	20	0	3	6
,,	Ferruginous quartz rubble	0	19	11	0	3	6
,,	Quartz and slate, showing free gold	15	17	19	1	3	22
Sally's Flat	Quartz	0	17	19	1	6	2
Tenterfield (14 miles S.E. from).	,, with galena	0	13	0	29	16	16
Tenterfield District	,,	0	10	21	1	1	18
Tong Bong	Ferruginous, crushed sample	0	17	9	0	1	3
Turlingah	Quartz, with mispickel	3	5	8	35	15	16
Tumberumba (2 miles N. of).	Ferruginous, micaceous quartz	5	13	5	1	10	11
Tumut (near)	,, quartz, free gold, a few specks showing.	3	9	15	0	4	8
Tuena District	Quartz tailings, with iron pyrites	2	6	18	13	19	20
,,	,, a few specks of pyrites present	25	5	5	28	10	12
Trunkey (near)	Crushed quartz	98	0	0	14	19	10
,, ,,	,, and pyrites	1	15	22	0	7	14
,, (Mount Grey)	Ferruginous quartz	0	18	16	0	1	17
Thirlmere	Pyritous quartz	0	10	21	74	11	18
Temora (Yalgoglin), 70 miles N.W. of.	Ferruginous quartz	0	16	4	0	5	11
	Pyritous quartz	18	10	5	0	10	21
Temora	Quartz, with very few specks of galena and pyrites.	5	19	15	15	4	20
Towamba	Ferruginous quartz	5	19	15	3	9	16
Twofold Bay	Pyritous quartz	1	1	18	1	19	4
Two-mile Flat (Baylis' Creek)	Ferruginous quartz showing free gold	20	17	23	3	11	19
,, ,,	Quartz, with a little pyrites	0	19	11	0	5	10
Tilbuster	Blanketings	4	13	14	1	6	2
,,	Quartz and pyrites, with a few specks of stibnite	6	10	16	15	15	18
Tarana	Mispickel, with quartz, a little galena and pyrites present.	20	15	22	0	19	11
Upper Wangat, Williams River.	Quartz, with calcite and slate, and showing a little free gold.	8	3	7	1	6	2
Whipstick	Ferruginous pyritous veinstone	1	12	16	0	10	21
,,	Granite	1	14	20	1	6	2
,,	Quartz, with sulphide of bismuth	1	19	4	1	1	18
,,	Concentrated pyrites	2	7	20	3	11	20
,,	Tailings and slimes	65	10	21	8	19	16
,,	Slimes	6	9	10	0	12	22
,,	Pyritous quartz and felspathic material	1	3	22	0	6	12
,,	Quartz and felspar veinstone, with a little galena and pyrites.	0	10	21	0	15	2
Walcha (near Cell's Creek)	Ferruginous quartz, with slate	4	4	22	1	18	2
,, ,,	,, ,,	7	1	13	1	12	6
,, ,,	,, ,,	4	10	8	1	9	8
,, (15 miles south)	Pyritous quartz	0	12	22	0	4	8
Windeyer	Concentrates (pyritous)	24	12	23	1	16	17
,,	Tailings, large pieces of quartz present	2	10	1	0	17	9
Wattle Flat	Ferruginous quartz	15	7	0	1	1	18

Locality.	Description.	Per ton. Gold.			Silver.		
		oz.	dwt.	gr.	oz.	dwt.	gr
Wattle Flat	Ferruginous quartz	3	16	5	1	6	2
,, ...	,, ,, ...	0	12	22	0	4	8
,, ...	Tailings	6	7	5	1	10	11
Womban Creek.....	Concentrates	1	1	18	1	10	11
,, ...	Tailings	0	19	12	1	3	22
Wallerawang.................	Ferruginous siliceous gossan	1	3	22	6	19	8
Wagonga	Felsite, with a little mispickel and quartz threads.	0	12	22	0	4	8
,, ...	Felsite, with quartz veins	0	17	9	0	6	12
Wellington (near Mitchell's Creek).	Tailings	2	8	23	11	19	11
Westmoreland, County of, Parish of Blenheim.	Galena, with quartz crystals	1	12	16	3	16	5
Westmoreland, Parish of Norway.	Micaceous quartz grit, with red ochre	5	19	15	4	7	2
Wynyard, County of, Parish of Hindmarsh.	Quartz and brown iron ore	4	7	2	0	15	4
Wagonga	Felsite, with quartz veins and mispickel	0	19	11	0	6	10
,, (Spring Creek)	Ferruginous quartz	8	8	17	0	9	19
,, ,, ...	Concentrates (pyrites and ferruginous quartz)...	3	12	22	0	16	4
Warne...........................	Quartz	28	6	4	1	14	20
Wiseman's Creek, near Bathurst.	Quartz, with copper pyrites and a few specks of iron pyrites and zincblende.	0	10	21	3	7	12
Wyndham	Ferruginous pyritous quartz	0	18	2	0	4	8

COAL.

I regret to say our output of coal for 1892 compared with 1891 shows a considerable decrease both in quantity and value. The decrease appears to be mainly due to the reduction in the consumption of coal within this Colony. The export of coal, as a whole, shows comparatively small diminution, indeed, the quantity sent to foreign ports shows an increase in quantity, the decrease being to intercolonial ports, but there was a reduction all round in the price of coal, which has not been so low since 1881. I presume the decrease in our home consumption of coal must be due to the financial depression which has prevailed of late.

QUANTITY and Value of Coal raised from the opening of the Coal-seams to 1857, inclusive :—

Year.	Quantity.	Average per ton.	Value.	Year.	Quantity.	Average per ton.	Value.
		£ s. d.	£			£ s. d.	£
Prior to 1829	50,000	0 10 0·00	25,000	1844	23,118	0 10 8·34	12,363
1829	780	0 10 1·23	394	1845	22,324	0 7 10·27	8,769
1830	4,000	0 9 0·00	1,800	1846	38,965	0 7 0·46	13,714
1831	5,000	0 8 0·00	2,000	1847	40,732	0 6 9·01	13,750
1832	7,143	0 7 0·00	2,502	1848	45,447	0 6 3·38	14,275
1833	6,812	0 7 6·73	2,575	1849	48,516	0 6 0·45	14,647
1834	8,490	0 8 10·00	3,750	1850	71,216	0 6 6·77	23,375
1835	12,392	0 8 10·19	5,483	1851	67,610	0 7 6·51	25,546
1836	12,646	0 9 1·06	5,747	1852	67,404	0 10 11·33	36,885
1837	16,083	0 9 8·81	5,828	1853	96,809	0 16 1·51	78,059
1838	17,220	0 9 9·05	8,399	1854	116,642	1 0 5·63	119,380
1839	21,283	0 9 9·73	10,441	1855	137,076	0 12 11·96	89,082
1840	30,256	0 10 10·86	16,498	1856	189,960	0 12 4·06	117,906
1841	34,841	0 12 0·00	20,905	1857	210,434	0 14 0·97	148,158
1842	39,900	0 12 0·00	23,940				
1843	25,862	0 12 6·54	16,222		1,468,961	0 11 10·72	869,391

TABLE showing the Quantities and Average Value per ton of Coal exported to Intercolonial and Foreign Ports respectively, the Quantity of Coal consumed in this Colony, and the Average Price per ton of the total output of the Collieries, from 1858 to 1892 inclusive.

Year.	Exports to Intercolonial Ports.			Exports to Foreign Ports.			Total Exports.			Home consumption.	Total Output and Value.		
	Quantity.	Average per ton.	Value.	Quantity.	Average per ton.	Value.	Quantity.	Average per ton.	Value.		Quantity.	Average per ton.	Value
	Tons.	£ s. d.	£	Tons.	£ s. d.	£	Tons.	£ s. d.	£	Tons.	Tons.	£ s. d.	£ s. d
1858	101,488	0 15 1·67	76,824	12,039	1 0 1·85	12,132	113,527	0 15 8·05	88,956	102,870	216,397	0 14 11·84	162,162 0 0
1859	129,586	0 14 6·67	94,312	44,349	0 17 5·27	38,672	173,935	0 15 3·49	132,984	134,278	308,213	0 13 3·14	204,371 0 0
1860	140,183	0 14 10·85	104,471	93,694	0 16 11·10	79,290	233,877	0 15 8·57	183,761	134,985	368,862	0 12 3·36	226,493 0 0
1861	157,278	0 15 2·25	119,433	50,502	0 16 5·37	41,532	207,780	0 15 5·92	160,965	134,287	342,067	0 12 9·52	218,820 0 0
1862	195,427	0 15 0·55	147,019	113,355	0 17 4·34	98,403	308,782	0 15 10·75	245,422	167,740	476,522	0 12 9·73	305,234 0 0
1863	213,909	0 13 8·40	146,532	84,129	0 17 6·10	73,649	298,038	0 14 9·30	220,181	135,851	433,889	0 10 10·66	236,230 0 0
1864	283,539	0 10 3·74	146,199	88,927	0 14 10·90	66,289	372,466	0 11 4·91	212,488	176,546	549,012	0 9 10·10	270,171 0 0
1865	292,664	0 9 11·83	146,129	90,304½	0 15 0·79	68,029	382,968½	0 11 2·20	214,158	202,556½	585,525	0 9 4·43	274,303 0 0
1866	344,194	0 9 2·98	159,175	196,711	0 14 4·53	141,413	540,905	0 11 1·37	300,588	233,333	774,238	0 8 4·44	324,049 0 0
1867	312,101	0 9 4·35	146,111	161,256	0 13 3·47	107,148	473,357	0 10 8·40	253,259	296,655	770,012	0 8 10·79	342,655 0 0
1868	329,052	0 9 5·76	155,975	218,934	0 12 5·29	136,226	548,036	0 10 7·96	292,201	406,195	954,231	0 8 9·08	417,809 0 0
1869	340,466	0 8 9·07	149,059	255,087	0 11 8·31	149,136	595,553	0 10 0·16	298,195	324,221	919,774	0 7 6·32	346,146 0 0
1870	335,564	0 8 6·02	142,656	242,825	0 10 3·57	125,025	578,389	0 9 3·07	267,681	290,175	868,564	0 7 3·54	316,836 0 0
1871	378,891	0 8 6·91	162,470	186,538	0 10 1·22	94,220	565,429	0 9 0·95	256,690	333,355	898,784	0 7 0·47	316,240 0 0
1872	394,052	0 8 8·11	170,947	275,058	0 9 11·46	136,914	669,110	0 9 2·42	307,861	343,316	1,012,426	0 7 9·92	396,198 0 0
1873	425,937	0 12 9·32	272,110	347,142	0 14 7·59	253,979	773,079	0 13 7·32	526,089	419,783	1,192,862	0 11 1·94	665,747 0 0
1874	467,583	0 13 8·30	320,119	405,442	0 15 4·76	312,128	873,025	0 14 5·81	632,247	431,587	1,304,612	0 12 1·37	790,224 0 0
1875	518,853	0 13 7·77	354,074	408,154	0 15 6·64	317,409	927,007	0 14 5·84	671,483	402,722	1,329,729	0 12 3·89	819,429 17 2
1876	542,952	0 13 8·45	372,045	325,865	0 15 6·45	253.166	868,817	0 14 4·70	625,211	451,101	1,319,918	0 12 2·06	803,300 5 6
1877	563,757	0 13 8·64	386,740	351,970	0 14 10·81	262,237	915,727	0 14 2·08	648,977	528,544	1,444,271	0 11 10·74	858,998 8 2
1878	623,323	0 13 8·77	427,954	383,097	0 14 7·69	280,452	1,006,420	0 14 0·93	708,406	569,077	1,575,497	0 11 8·28	920,936 7 4
1879	621,087	0 13 6·75	421,198	376,962	0 14 6·13	273,509	998,049	0 13 11·05	694,707	585,332	1,583,381	0 12 0·12	950,878 18 3
1880	550,672	0 11 2·67	309,004	202,684	0 11 5·70	116,295	753,356	0 11 3·48	425,299	712,824	1,466,180	0 8 6·36	615,336 11 7
1881	657,135	0 7 9·34	255,572	372,709	0 8 8·29	161,958	1,029,844	0 8 1·30	417,530	739,753	1,769,597	0 6 9·55	603,248 5 8
1882	760,226	0 9 9·54	372,334	501,319	0 10 11·50	274,699	1,261,545	0 10 3·09	647,033	847,737	2,109,282	0 8 11·97	948,965 0 0
1883	855,704	0 10 5·75	448.356	656,741	0 11 7·34	381,306	1,512,445	0 10 11·65	829,662	1,009,012	2,521,457	0 9 6·40	1,201,941 12 11
1884	994,087	0 10 8·66	532,938	696,676	0 11 5·14	398,107	1,690,763	0 11 0·15	931,045	1,058,346	2,749,109	0 9 5·71	1,303,076 19 11
1885	991,924	0 10 7·13	525,443	764,432	0 11 6·52	441,220	1,756,356	0 11 0·09	966,663	1,122,507	2,878,863	0 9 3·72	1,340,212 13 7
1886	1,027,775	0 10 7·22	544,824	708,090	0 11 4·31	402,178	1,735,865	0 10 10·93	947,002	1,094,310	2,830,175	0 9 2·53	1,303,164 4 1
1887	1,077,270	0 10 5·89	565,084	713,172	0 11 1·08	395,455	1,790,442	0 10 8·75	960,539	1,132,055	2,922,497	0 9 2·57	1,346,440 2 7
888	1,039,764	0 10 10·25	564,293	884,108	0 11 3·77	500,179	1,923,872	0 11 0·78	1,064,472	1,279,572	3,203,444	0 9 1·02	1,455,198 4 1
1889	1,310,228	0 10 4·24	678,200	1,077,474	0 11 1·88	601,071	2,387,702	0 10 8·58	1,279,271	1,267,930	3,655,632	0 8 11·20	1,632,848 15 6
1890	1,149,544	0 10 6·96	608,108	672,330	0 11 3·31	379,065	1,821,874	0 10 10·04	987,173	1,239,002	3,060,876	0 8 4·29	1,279,088 19 5
1891	1,397,256	0 10 0·30	700,380	847,473	0 10 10·43	460,595	2,244,729	0 10 4·12	1,160,965	1,793,200	4,037,929	0 8 7·58	1,742,795 12 6
1892	1,318,008	0 8 10·89	587,016	873,697	0 10 1·24	441,379	2,191,705	0 9 4·61	1,028,395	1,589,263	3,780,968	0 7 8·82	1,462,388 9 4
	20,841,479	0 10 10·28	11,313,104	13,683,295½	0 12 1·10	8,274,465	34,524,774½	0 11 4·10	19,577,559	21,690,020½	56,214,785	0 9 4·72	26,401,037 7 7

The aggregate thickness of coal bored through by the Government diamond drills during 1892, was 42 feet 7 inches, of which 12 feet 4 inches was coal and bands. The details are as follow:—Greta, 6 feet; Cremorne, 3 inches; Bulli, 36 feet 4 inches.

The number of collieries under inspection was 101 coal and 5 shale.

The following statement shows that the output of coal in the Northern collieries in 1892 was less by 241,520 tons than in 1891, and less in value by £251,333 18s. 3d. The output of the Western collieries in 1892 was 110,441 tons 12 cwt. less than in 1891, and the value was less by £16,689 4s. 2d. The output of the Southern collieries in 1892 exceeded that of 1891 by 95,000 tons, but the value was less by £12,383 0s. 9d.

COMPARATIVE Statement of Output of Coal in the Northern, Western, and Southern Districts.

	1884.		1885.	
	Tons.	Value.	Tons.	Value.
		£ s. d.		£ s. d.
Output, Northern District	2,055,342 10 3	1,011,933 13 7	2,113,372 13 0	1,032,904 13 4
Increase as compared with previous year	155,722 14 3	83,907 0 2	58,030 2 1	20,970 19 9
Decrease do do ...	....	....	....	....
Output, Western District	273,823 14 0	74,161 9 7	311,762 16 0	76,836 13 3
Increase as compared with previous year	41,405 11 0	....	37,939 2 0	2,675 3 8
Decrease do do ...	....	3,619 8 11	....	....
Output, Southern District	419,942 9 0	216,981 16 9	453,727 15 3	230,471 7 0
Increase as compared with previous year	30,523 7 0	20,847 15 9	33,785 6 3	13,489 10 3
Decrease do do ...	....	....	....	....

	1886.		1887.	
	Tons.	Value.	Tons.	Value.
		£ s. d.		£ s. d.
Output, Northern District	2,178,116 0 0	1,084,554 17 1	2,243,792 0 0	1,096,720 0 7
Increase as compared with previous year	64,743 7 0	51,650 3 9	65,676 0 0	12,165 3 6
Decrease do do ...	....	....	....	....
Output, Western District	281,229 0 0	68,615 15 0	302,137 0 0	79,036 0 2
Increase as compared with previous year	....	....	20,908 0 0	10,420 5 2
Decrease do do ...	30,533 16 0	8,220 18 3	....	....
Output, Southern District	370,830 0 0	149,993 12 0	376,568 0 0	170,684 1 10
Increase as compared with previous year	....	....	5,738 0 0	20,690 9 10
Decrease do do ...	82,897 15 3	80,477 15 0	....	....

	1888.		1889.	
	Tons.	Value.	Tons.	Value.
		£ s. d.		£ s. d.
Output, Northern District	2,067,012 4 3	1,022,022 8 10	2,624,347 3 0	1,261,224 16 5
Increase as compared with previous year	....	....	557,304 18 1	239,202 7 7
Decrease do do ...	176,749 15 1	74,697 11 9	....	....
Output, Western District	339,594 9 0	95,136 3 0	329,713 3 0	81,459 1 1
Increase as compared with previous year	37,457 9 0	16,100 2 10	....	....
Decrease do do ..	....	....	9,881 6 0	13,677 1 11
Output, Southern District	796,806 10 0	338,039 12 3	701,572 0 0	290,164 18 0
Increase as compared with previous year	420,238 10 0	167,355 10 5	....	....
Decreare do do ...	....	....	95,234 10 0	47,874 14 3

	1890.		1891.	
	Tons.	Value.	Tons.	Value.
		£ s. d.		£ s. d.
Output, Northern District	2,120,046 6 1	995,931 2 6	2,853,251 13 1	1,354,028 12 8
Increase as compared with previous year	....	....	733,205 7 0	358,097 10 2
Decrease do do ...	504,300 16 3	265,293 13 11	....	....
Output, Western District	343,232 3 2	65,995 3 0	346,804 13 0	74,104 17 10
Increase as compared with previous year	13,519 0 2	....	3,572 9 2	8,109 14 10
Decrease do do ...	....	15,463 18 1	....	....
Output, Southern and South-western Districts.	597,598 0 0	217,162 13 11	837,873 0 0	314,662 2 0
Increase as compared with previous year	....	....	240,275 0 0	97,499 8 1
Decrease do do ...	103,974 0 0	73,002 4 1	....	....

	1892.			
	Tons.	Value.		
		£ s. d.		
Output, Northern District	2,611,731 13 0	1,102,694 14 5	....	....
Increase as compared with previous year	....	....	....	....
Decrease do do ...	241,520 0 1	251,333 18 3	....	....
Output, Western District	236,363 1 0	57,414 13 8	....	....
Increase as compared with previous year	....	....	....	....
Decrease do do ...	110,441 12 0	16,689 4 2	....	....
Output, Southern and South-western Districts.	932,873 0 1	302,279 1 3	....	....
Increase as compared with previous year	95,000 0 1	....	....	....
Decrease do do ...	....	12,383 0 9	....	....

The average price of Coal in the several districts was as follows :—

	1891.			1892.					
	s.	d.		s.	d.		s.	d.	
Northern	9	5·89	....	8	5·32	a decrease of	1	0·57	per ton.
Western...............................	4	3·28	....	4	10·30	an increase of	0	7·02	,,
Southern and South-western ...	7	4·70	....	6	5·60	a decrease of	0	11·10	,,

TABLE compiled from Reports furnished by Owners of Collieries, showing the quantity and value of Coal and Shale won during the year 1892, and the number of men employed in the Collieries.

Northern District.

Company.	Locality.	Men employed.			Quantity.			Value.		
		Above ground.	Under ground.	Total.	Tons	cwt.	qr.	£	s.	d.
COAL.										
Australian Agricultural Co. ...	Newcastle	141	598	739	298,556	0	0	126,840	2	6
Burwood	Burwood	83	278	361	56,887	9	0	23,911	14	0
,, Extended..............	Redhead	13	49	62	10,413	0	0	5,206	10	0
Brown's	Minmi	70	340	410	172,578	0	0	76,164	0	0
Bloomfield	Four-mile Creek, East Maitland.	3	8	11	3,800	0	0	1,520	0	0
Co-operative.......................	Plattsburg	62	359	421	74,761	0	0	27,896	0	0
Centenary.........................	Curlewis	6	20	26	6,000	0	0	2,400	0	0
Duckenfield	Minmi	62	300	362	134,168	0	0	59.816	0	0
Dulwich	Singleton	2	11	13	4,194	7	1	1,880	9	6
Durham	Redhead	37	15	52	....			....		
Dudley	Near Charlestown	40	210	250	70,524	13	0	30.383	6	5
Denton Park.......................	West Maitland......	4	6	10	70	0	0	21	0	0
East Lambton	New Lambton	8	35	43	9,600	0	0	3,600	0	0
Ebbw Vale	Adamstown	3	40	43	20,571	0	0	7,966	18	0
East Greta	West Maitland......	10	11	21	3,416	0	0	1,493	0	0
Elliott's	Rix's Creek	2	8	10	2,600	0	0	1,290	0	0
Ellesmere..........................	Singleton	8	27	35	12,336	19	1	5,159	14	6
Elemore Vale	Wallsend	2	12	14	9,673	0	0	2,461	15	10
Ferndale	Wickham	11	59	70	16,147	0	0	7,365	0	0
Fern Valley........................	Adamstown	2	8	10	409	0	0	171	10	0
Greta	Greta................	60	340	400	108,485	0	0	50,526	10	0
Gartlee	Teralba	4	25	29	13,574	0	0	5,482	9	6
Hetton	Carrington	49	415	464	154,100	0	0	63.081	0	0
Abram	Farley	7	21	28	807	4	0	341	0	6
Hillside	Burwood, Merewether..	1	3	4	2,665	0	0	799	10	0
Kynga	Muswellbrook	1	2	3	611	0	0	283	0	0
Lambton	Lambton	72	408	480	224,498	0	0	101,373	5	0
Marshall's..........................	Four-mile Creek ...	1	1	2	677	0	0	180	0	0
Morley	Gunnedah...........	1	1	2	25	3	2	15	0	1
Morrisett	Swansea..............	1	1	2	464	0	0	185	0	0
Northern	Teralba	20	153	173	44,263	0	0	17,383	0	0
Newcastle-Wallsend	Wallsend	140	800	940	281,320	0	0	129,385	0	0
Newcastle Coal Company	Newcastle	101	371	472	125,689	0	0	26,046	0	0
New Lambton	,, ...	3	40	43	20,571	0	0	7,966	18	0
,, C Pit	Adamstown	35	130	165	39,962	0	0	17,510	4	6
New Anvil Creek.................	Greta.................	7	20	27	894	0	0	305	0	0
,, Park..........................	Singleton	17	21	38	10,389	1	1	4,278	17	0
Pioneer	West Maitland......	2	2	4	266	13	0	74	15	7
Rotunda	Waratah	1	1	2	200	0	0	88	18	0
Richmond Vale	Near Maitland	10	3	13	100	0	0	33	0	0
Rosedale	Singleton	4	15	19	5,829	0	0	2,682	0	0
Stockton	Stockton	60	340	400	162,235	0	0	79,765	0	0
South Waratah......	Charlestown.........	73	270	343	107,859	0	0	48,327	9	0
,, Wallsend	Cardiff	13	65	78	27 924	0	0	9,896	16	0
Summerhill and Maryland......	Plattsburg	12	23	35	20,037	0	0	8,902	10	0
Swansea	Swansea	1	1	2	10	0	0	5	0	0
Seaham	Minmi	25	127	152	14,958	0	0	6,439	13	0
Thornley	East Maitland	4	12	16	8,178	2	3	1,511	7	6
Toronto............................	Lake Macquarie ...	...	3	3	350	0	0	122	10	0
Wickham and Bullock Island	Carrington	46	390	436	171,199	0	0	74,860	0	0
West Burwood.....................	Merewether	3	15	18	2,855	0	0	1,044	0	0
,, Wallsend	West Wallsend ...	26	240	266	66,185	0	0	30,037	0	0
Wallarah	Catherine Hill Bay	40	90	130	59,264	0	0	20,018	0	0
Young Wallsend..................	Teralba	12	40	52	28,582	0	0	8,158	0	0
		1,421	6,783	8,204	2,611.731	13	0	1,102,694	14	5

Company	Locality.	Men employed.			Quantity.			Value.		
		Above ground.	Under ground.	Total.						
Southern District.										
					Tons	cwt.	qr.	£	s.	d.
Metropolitan	Hellensburg	50	230	280	155,093	0	0	46,650	0	0
Coal Cliff	Clifton	6	16	22	4,000	0	0	1,825	0	0
Austermere	North Bulli	6	16	22	913	0	0	388	0	6
Bulli	Bulli	50	140	190	44,247	0	0	14,824	1	0
South Bulli	,,	45	200	245	140,774	0	0	37,900	0	0
Bellambi	South Bulli	17	87	104	112,694	1	0	52,111	5	3
Corrimal	Wollongong	40	110	150	63,548	0	0	19,064	8	0
Mount Pleasant	,,	51	143	194	68,552	0	0	23,002	11	0
Osborn Wallsend	,,	37	114	151	75 050	0	0	21,000	0	0
Mount Kembla	,,	51	254	305	177,269	0	0	57,463	0	0
South Clifton	,,	20	100	120	70,000	0	0	17,500	0	0
Bulli Pass	Bulli	6	30	36	8,819	9	1	4,733	9	6
		379	1,440	1,819	920,960	8	1	296,461	15	3
South-Western District.										
Great Southern	Moss Vale	3	8	11	1,232	0	0	596	0	0
Box Vale	Mittagong	1	2	3	850	0	0	306	0	0
Australian Kerosene Company	Joadja Creek	8	19	27	9,830	12	0	4,915	6	0
		12	29	41	11,912	12	0	5,817	6	0
Western District.										
Irondale	Piper's Flat	2	7	9	1,218	0	0	237	17	8
Cullen Bullen	Wallerawang	10	30	40	10,853	0	0	3,031	0	0
Lithgow Valley	Lithgow	7	48	55	34,687	0	0	7,632	0	0
Hermitage	,,	5	45	50	31,318	0	0	6,165	0	0
Eskbank	,,	7	43	50	39,178	0	0	8,278	16	0
Eskbank Old Tunnel	,,	1	7	8	4,629	0	0	1,021	8	0
Vale of Clwydd	,,	6	39	45	24,120	0	0	9,650	0	0
Vale	,,	5	45	50	21,393	0	0	4,813	8	6
Zig Zag	,,	5	35	40	21.782	6	0	5,445	0	0
Oakey Park	,,	5	40	45	28,107	7	0	6,085	0	0
Cooerwull	,,	1	1	2	400	0	0	120	0	0
Australian Kerosene Company	Katoomba	20	20	40	15,271	8	0	4,089	5	6
New South Wales Shale Co.	Hartley	3	10	13	3,300	0	0	825	0	0
Carlo's Gap	Capertee	1	2	3	106	0	0	20	18	0
		78	372	450	236,363	1	0	57,414	13	8
SHALE.										
New South Wales Shale and Oil Company.	Hartley	23	121	144	29,419	0	0	57,472	5	0
Australian Kerosene Oil and Mineral Company.	Katoomba	40	114	154	22,101	0	0	38,676	15	0
Australian Kerosene Oil and Mineral Company.	Joadja Creek	14	70	84	22,071	3	0	38,623	5	3
Genowlan	Capertee	2	12	14	606	0	0	1,307	0	9
		79	317	396	74,197	3	0	136,079	6	0

The number of men employed in and about the coal and shale mines in 1892 was 10,910. The total number of fatal accidents was 8; non-fatal, 77; compared with 21 fatal and 54 non-fatal accidents in 1891. In the Northern district there were 6 fatal and 59 non-fatal accidents. In the South and South-western districts no fatal and 16 non-fatal accidents occurred. In the Western district there were 2 fatal and 2 non-fatal accidents.

SUMMARY of persons employed, number of fatal accidents (deaths), and ratios of the number of persons employed, and the number of fatal accidents in and about the "United Kingdom" and "New South Wales" Coal Mines, since 1874:—

	United Kingdom.				New South Wales.			
Year.	Persons employed.	Lives lost by accident.	Persons employed per life lost.	Death rate from accidents per 1,000 persons employed.	Persons employed.	Lives lost by accident.	Persons employed per life lost.	Death rate from accidents per 1,000 persons employed.
1874	538,829	1,056	510	1·959	......	5	....	....
1875	535,845	1,244	430	2·321	3,308	8	413	2·418
1876	514,532	933	551	1·813	4,084	4	1,021	0·979
1877	494,391	1,208	409	2·443	4,657	7	665	1·503
1878	475,329	1,413	336	2·972	4,792	8	599	1·669
1879	476,810	973	490	2·040	5,035	5	1,007	0·993
1880	484,933	1,318	368	2·718	4,676	8	584	1·710
1881	495,477	954	519	1·925	4,098	2	2,049	0·488
1882	503,987	1,126	447	2·234	4,487	12	373	2·674
1883	514,933	1,054	488	2·046	5,481	15	365	2·736
1884	520,376	942	552	1·810	6,227	14	444	2·248
1885	520,632	1,150	453	2·207	7,097	11	645	1·549
1886	519,970	953	545	1·833	7,847	29	270	3·694*
1887	526,277	995	529	1·890	7,998	94	85	11·752†
1888	534,945	888	601	1·666	9,301	15	620	1·612
1889	563,735	1,064	530	1·887	10,277	41	250	3·989‡
1890	613,233	1,160	529	1·891	10,315	13	793	1·260
1891	648,450	979	662	1·509	10,820	21	515	1·940

* Excessive number of falls of coal and Lithgow disaster caused this high death rate.

† Bulli catastroph and excessive falls of coal caused this high death rate.

‡ Hamilton pit crush, excessive falls of coal, and over-winding of four men at South Burwood sinking pit, caused this high death rate.

During the year the following analyses of coal have been made :—

Sixty-eight Coal Analyses made during the year, 45 of which are published :—

Locality.	Description of Mineral.	Analysis in 100·00 parts:				Sulphur.	Specific Gravity.	Remarks.
		Hygroscopic Moisture.	Volatile Hydro-carbons.	Fixed Carbon.	Ash.			
Bulli	Altered coal	0·89	6·81	61·38	30·92	...	...	No coke formed. Ash, reddish tinge, dense.
,,	,,	1·50	9·70	78·55	10·25	·768	1·337	No coke formed. 1 lb. of this coal will convert 13·2 lb. of water into steam.
,,	Altered coal, immediately touching dyke.	3·90	5·15	60·30	30·65	...	...	No coke formed.
,,	Altered coal	1·45	11·85	77·20	9·50	·809	1·439	No coke formed. 1 lb. of this coal will convert 11·9 lb. of water into steam.
,,	Coal	1·95	10·40	51·90	35·75	...	...	No coke formed.
,,	Good coal, No. 1 seam	1·55	19·20	67·65	11·60	·631	1·396	Coke, 72·75 per cent. Water converted into steam by 1 lb. of coal—13·9 lb.
,,	Altered coal	3·30	3·25	64·35	29·10	...	...	No coke formed.
,,	Coal	0·80	24·50	63·60	11·10	·603	1·356	Coke, 74·70 per cent. 1 lb. of this coal will convert 14·3 lb. of water into steam.
,,	Altered coal	4·20	6·60	66·25	22·95	...	...	No coke formed.
,,	Coal, bottom portion of seam.	5·87	17·81	59·43	16·89	...	...	Coke, 76·32 per cent.
,,	Coal	0·70	19·70	66·60	13·00	·658	1·442	Coke, 79·60 per cent. 1 lb. of this coal will convert 13·8 lb. of water into steam.
Bundanoon Coal Mine	Splint coal	1·75	22·10	50·25	25·90	...	...	Ash, grey. Coke—This coal formed a coke on heating, firm and dense.
,, (upper seam)	Bituminous coal	1·95	30·05	56·15	11·85	·603	1·402	Coke, 68 per cent., not much swollen, fairly bright and firm. Ash, light, grey. 1 lb. of this coal will convert 14·2 lb. of water into steam. A good steaming coal.
Bourke (Corella bore; depth, 400 feet).	Lignite	13·83	40·02	39·65	6·50	...	...	No coke formed, only a loose black powder left after ignition in a covered crucible. Ash, reddish tinge, with white spots.
,, (800 feet)	,,	14·45	32·45	44·85	8·25	...	...	Coke; no true coke formed. Ash, reddish tinge, with white spots.
Curlewis Coal Company	Samples of splint, with layers of bituminous coal, from top, middle, and bottom of seam.	3·69	31·32	57·31	7·68	·52	1·337	Coke, 64·99 per cent., well swollen, firm, and lustrous. Ash, grey, flocculent. 1 lb. of this coal will convert 12·4 lb. of water into steam.
Clifton (near)	Semi-bituminous coal	·85	17·80	68·30	13·05	·343	1·409	Coke, 81·35 per cent., dull and firm. Ash, white and flocculent. 1 lb. of this coal will convert 12·1 lb. of water into steam. An excellent coal for steaming purposes.

Locality.	Description of Mineral.	Analysis in 100·00 parts.				Sulphur.	Specific Gravity.	Remarks.
		Hygroscopic Moisture.	Volatile Hydrocarbons.	Fixed Carbon.	Ash.			
Helensburgh (Metropolitan Coal Mine).	Bituminous coal	·90	18·50	71·10	9·50	·466	1·369	Coke, 80·60 per cent., well swollen up, bright, and firm. Ash, white, flocculent. 1 lb. of this coal will convert 14·05 lb. of water into steam. An excellent quality of steaming coal.
Illawarra District........ ...	,, ,, ...	1·25	20·95	65·35	12·45	·562	1·384	Coke, 77·80 per cent., well swollen, firm, and lustrous. 1 lb. of this coal will convert 13·8 lb. of water into steam. Ash, reddish tinge, dense.
,, ...	,, ,, ...	1·05	23·15	66·65	9·15	·754	1·390	Coke, 75·80 per cent., well swollen, firm, and fairly lustrous. 1 lb. of this coal will convert 13 lb. of water into steam. Ash, reddish tinge, dense.
,, ...	,, ,, ...	1·10	22·80	65·70	10·40	·549	1·396	Coke, 76·10 per cent., well swollen, firm, and lustrous. 1 lb. of this coal will convert 13·5 lb. of water into steam. Ash, grey in colour, dense.
,, ...	,, ,, (dirty)...	1·40	19·05	66·45	13·10	·549	1·438	Coke, 79·55 per cent., well swollen, firm, and lustrous. 1 lb. of this coal will convert 12 lb. of water into steam. Ash, reddish tinge, dense.
Killarney	Splint coal	4·00	35·75	32·90	27·35	...	...	No true coke formed; only a loose coherent mass left after ignition. Ash, reddish tinge, and slightly granular.
,, ...	,, with iron oxide	3·95	28·15	16·45	51·45	...	...	No coke formed. Ash, reddish tinge, granular.
,, ...	,, ...	2·90	41·45	34·90	20·75	·892	1·388	Coke, 55·65 per cent.; firm, cracked, and lustrous. Ash, reddish tinge, granular.
Leconfield Bore (No. 1 Seam).	Coal	·94	39·32	51·31	7·87	·56	...	Coke, 59·18 per cent., well swollen, firm, and fairly lustrous. Ash, grey, dense. Sulphur, ·65 per cent. Fixed sulphur, ·09 per cent. (in ash). 1 lb. of this coal will convert 13 lb. of water into steam.
,, (No. 2 Seam).	,, ...	·83	37·77	52·14	8·00	1·26	..	Coke, 60·14 per cent., well swollen, with cauliflower-like excrescences, firm, and lustrous. Ash, reddish tinge, dense. Sulphur in coal, 1·332 per cent. Fixed sulphur (in ash), ·070 per cent. 1 lb. of this coal will convert 12·9 lb. of water into steam.
Lithgow	Bituminous coal, with earthy band.	2·34	32·39	54·45	10·82	·617	1·369	Coke, 65·27 per cent., well swollen, with cauliflower-like excrescences, firm, dull in lustre. Ash, grey, flocculent. 1 lb. of this coal will convert 12·5 lb. of water into steam.
Mittagong (Bullock Head)	Dirty bituminous coal ...	10·85	25·75	52·65	10·75	0·933	1·445	Coke, no coke formed. Ash, grey flocculent. 1 lb. of this coal will convert 9·7 lb. of water into steam.
Maclean	Bright bituminous coal, with thin shale bands.	1·10	10·45	61·35	27·10	...	...	Coke, 88·45 per cent.; very dull. Ash, grey, dense.

Locality.	Description of Mineral.	Analysis in 100·00 parts.				Sulphur.	Specific Gravity.	Remarks.
		Hygro-scopic Moisture.	Volatile Hydro-carbons.	Fixed Carbon.	Ash.			
Murrurundi	Cannel coal	2·25	35·20	49·95	12·60	·865	1·371	Coke, 62·55 per cent., well swollen, firm, and lustrous. Ash, reddish tinge, slightly granular.
Moree District	Shaly coal, with bituminous layers.	10·25	32·30	36·55	20·90	...	...	No coke formed. Ash, grey, granular.
Mount Pleasant Coal Mine	Semi-bituminous coal (dirty).	1·45	13·80	61·10	23·65	...	...	Coke, 84·75 per cent., dull and firm. Ash, grey, slightly granular.
Mount Victoria.......... ...	Semi-bituminous coal......	1·70	27·40	59·95	10·95	·494	1·385	Coke, 70·9 per cent., well swollen, firm, and fairly lustrous. Ash, white, flocculent. 1 lb. of this coal will convert 12·5 lb. of water into steam.
Muswellbrook	Bright bituminous coal ..	7·70	32·80	54·45	5·05	·658	1·312	Coke, 59·50 per cent., 1 lb. of this coal will convert 14·4 lb. of water into steam. An excellent description of coal, the percentage of ash being low, and the calorimetric estimation proving it to be an excellent coal for steaming purposes.
Nattai River, Mittagong District.	Dirty bituminous coal ...	12·34	30·74	47·97	8·95	0·521	1·463	Coke—no coke formed. Ash, grey in colour, dense. 1 lb. of this coal will convert 8·5 lb. of water into steam.
,, ,,	Bituminous coal	2·04	25·81	58·35	13·80	1·466	1·416	Coke, formed a cake on heating, dull in lustre, fairly firm, does not form a true coke. 1 lb. of this coal will convert 11·6 lb. of water into steam. Ash, grey, granular.
Rocky Mouth	Bituminous coal, average sample of 5½ inches.	5·67	13·47	55·61	25·25	...	...	No coke formed. Ash, grey.
,, ...	Bituminous coal with ¼ inch shale band.	3·90	34·65	36·80	24·65	...	...	Coke, 61·45 per cent., fairly swollen, firm, cracked, and lustrous. Ash, grey, granular.
Richmond River (Aberdare Coal Mine).	Bright bituminous coal...	0·85	15·95	65·40	17·80	...	...	Coke, 83·20 per cent. Ash, white flocculent. Coke, well swollen, firm, and lustrous.
Stroud (near)	Dirty bituminous coal ...	1·75	13·55	71·15	13·55	...	...	Ash, reddish tinge, flocculent. No coke formed, a loose coherent mass left after ignition.
Tenterfield and Lismore (between).	Laminated inferior coal	1·90	22·20	20·75	55·15	...	...	No coke formed. Ash, grey flocculent.
Talbragar River, near Mudgee.	Coaly shale	4·70	43·35	35·20	16·75	1·043	1·326	Coke, 51·95 per cent., cracked, firm, and fairly lustrous. Ash, red and granular. One pound of this coal will convert 13·1 lb. of water into steam.
Louth, Waanaring Road, Bourke District (46 mile bore, depth 1,010 feet)..	Lignite	12·78	34·17	46·49	6·56	...	...	Coke, no coke formed. Ash, reddish tinge, granular.
Yarrunga, near Moss Vale	Splint coal	1·34	16·91	52·75	29·00	...	...	Only a loose powder left after ignition of this coal. Ash, light grey colour, granular.

COKE.

TABLE showing the quantity and value of Coke made in the Colony of New South Wales

Year.	Quantity.				Total Value.		
	Northern District.		Southern and Western Districts.				
	tons	cwt.	tons	cwt.	£	s.	d.
1890	15,886	2	15,211	0	41,147	3	7
1891	9,474	2	20,836	5	34,473	5	10
1892	5,245	0	2,654	0	8,852	8	6
Totals......	30,605	4	38,701	5	84,472	17	11

There is a considerable falling off in the make of coke, especially in the Southern and Western districts, but there is reason to hope that the makers will adopt such appliances and methods as will raise the quality of the coke to the highest standard possible, and then it will probably compare so favourably with foreign coke that it will be exclusively used at all our smelting works, and thus an extensive trade will be established. The report furnished by the Government Geologist upon the Colonial cokes, as compared with those imported, should tend to bring about such improvement:—

Geological Survey, N.S. Wales, Department of Mines,
Sydney, 22nd December, 1892.

Sir,

With the object of obtaining as much information as possible in reference to the coke at present being made in the Colony, I have inspected the following Coke works, viz., (1) the Purified Coal and Coke Company's Coke Ovens at Wallsend, (2) the Singleton Colliery Coke Ovens at Rix's Creek, (3) the Vale Colliery Coke Ovens near Lithgow, and (4) the Bulli Colliery Coke Ovens at Bulli; I have also obtained samples of the washed and unwashed coal from which coke is at present being prepared, and also representative samples of the coke made at the above-mentioned coke ovens. These samples were collected by the Inspectors of Collieries and myself, and were analysed by Mr. Mingaye, F.C.S., Analyst to this Department. At my request Mr. Mingaye also subjected each sample of coal to a careful washing in the laboratory, and it may, I think, be assumed that the results obtained by this washing are about equal to the results obtainable by the best washing appliances used on the large scale at the present day in Europe. The accompanying table (A) of coal analyses shows the constituents of such coals before and after being subjected to the process of washing by hand in the laboratory, and it will be observed that in the two instances where the coal had been previously washed by machinery at the works (viz., the Purified Coal and Coke Company, Wallsend, and the Singleton Colliery) a still further reduction of the percentage of ash, amounting to ·55 in the one case and 2·75 in the other was effected by the Laboratory treatment. In a sample from the Co-operative Colliery, the coal which had not been previously washed by machinery was treated in the Laboratory, with the result that the percentage of ash was reduced from 6·85 to 3·85 and a firm coke obtained, containing 6·30 per cent. of ash. In another sample from the Mount Pleasant Colliery the percentage of ash in the coal was reduced (by washing in the Laboratory) from 10·65 to 4·70, and a firm and lustrous coke was obtained which contained 6·42 per cent. of ash.

The system of washing the coal before introducing it into the coke ovens is only adopted at four collieries, viz., (1) the Singleton Colliery, (2) the Purified Coal and Coke Company, Wallsend, (3) the Vale Colliery, and (4) the Bulli Colliery. At the Singleton Colliery the washing process is of the simplest kind: the coal after coming from the tunnel is thrown upon screens of $\frac{3}{4}$-inch mesh, and the smalls thus separated are carried in trucks to a hopper, whence they are fed into wooden sluice boxes having a maximum fall of about 1 in 36, and the coal is separated from the shale and brass by running water. The cleaned coal is then further separated by screens into blacksmiths' nuts and fine coal, which is converted into coke in ordinary Beehive Ovens. The method of washing here adopted is crude, and as already stated, it was found by experiment in the Laboratory that the percentage of ash in the coal after washing at the works could be further reduced by about 2·75 per cent.

The Purified Coal and Coke Company, Wallsend, have a much more extensive coal-washing plant, which I understand was designed by Mr. Taylor, the Manager. The coal is delivered into a hopper, whence it is carried by an elevator to a pair of rolls. After being crushed it is carried by another elevator to distributing troughs which divide it amongst three pulsating washing machines. The shale and brass fall through a grating and are carried away by a sluice, while the cleaned coal is carried forward by the water on to screens of $\frac{3}{4}$-inch mesh, which separate it into blacksmiths' nuts and fine coal; the latter is carried downwards in a sluice with a perforated bottom, and thus reaches the next pair of rolls in a sufficiently dry condition. After being crushed fine between these rolls it is elevated to trucks, whence it is charged into Beehive Ovens. The method of washing as practised at these works is quite automatic, and is perfect as far as it goes; but there is, I think, little doubt that it could be improved by the addition of another pulsating washer provided with a layer of felspar above the sieve. After the second crushing, the small particles of shale or dirt which it liberates from the coal, could be separated therefrom by a second washing in a machine such as I have referred to. As before stated, the percentage of ash in the coal which had passed through this washing plant was reduced by hand-washing in the laboratory from 5·20 to 4·65.

At the Vale Colliery, near Lithgow, a small coal-washing machine of American manufacture, and known as Dieseher's Coal and Ore Washing Plant, is employed. The coal is first thrown on screens of about 1-inch mesh, and the smalls from these screens are then crushed between rolls with spiral corrugations. The crushed coal passes thence into a pulsating washing machine; the small dirt passes through a fine wire sieve with apertures of $\frac{1}{16}$ to $\frac{1}{32}$ inch, the sieve having a slight inclination from back to front; the clean coal is washed over a lip in the front, and the pieces of shale or dirt which are too large to fall through the sieve escape by a $\frac{3}{4}$-inch aperture under the lip. As at present worked the process is far from perfect. The washed coal contains a good deal of dirt, and a considerable amount of coal is necessarily lost with the larger pieces of shale which escape through the $\frac{3}{4}$-inch aperture. The Western coal contains a large amount of dirt intimately mixed with it, and it is questionable whether it is of sufficiently good quality to warrant the expenditure of such a sum as would be required for the erection of a washing plant capable of thoroughly cleaning it.

At the Bulli Mine a Sheppard coal-washing plant has been erected. The small coal is raised by an elevator, and is then fed into a large pulsating washing machine; the clean coal is carried forward by the water, and is washed over a lip, while the dirt and brass escape by an aperture which can be regulated by a valve. The cleaned coal is carried by a screw to an elevator furnished with a perforated bottom and is delivered in a sufficiently dry condition to the rolls, where it is crushed, and again elevated to trucks which convey it to the Coke Ovens. In this plant, as in that of the Purified Coal and Coke Co., there is no provision for a second washing after the coal has passed through the rolls, and consequently none of the dirt, which may be liberated by the fine crushing, is separated from the coal before charging into the ovens. It is in this respect, I am of opinion, that the principal improvement can be made in the coal-washing plants of the Colony.

The New South Wales coals are inferior to the British only by reason of the fact that they contain a larger percentage of dirt intermixed with the coal. There is no doubt that the most perfect washing appliance in the world will not reduce the percentage of ash in coal below a certain limit, so thoroughly is a part of it incorporated with the fuel, at the same time much of the dirt besides that occurring in bands can be removed by alternate crushing, sizing, and washing, and the superiority of the modern coal-washing plants, such as the Lührig, consists in this, and in the final treatment of the finely-powdered coal, which is washed in pulsating machines provided with a layer of felspar—a mineral intermediate in specific gravity between the coal and the dirt. With such improved coal-washing plants there appears to be no reason why Colonial Coke should not be made of a quality (so far as the percentage of ash is concerned) suitable for any smelting operations it may be required for, and if the more modern ovens of a rectangular form were adopted, a great saving of time and a corresponding reduction in the cost of manufacture would probably result.

The Bulli Company use a rectangular oven which is a modification of the Coppée Coke Oven, and produces a dense coke capable of bearing a heavy furnace burden, but unfortunately the coal is very dirty, and the coke is consequently high in percentage of ash. The period required for making coke in these furnaces is considerably shorter than with the Beehive Ovens, which are used at all the other works visited by me. The charge of coke is removed by a hydraulic ram, and is quenched in the open air by spraying water over it. The gases of combustion are caused to traverse flues built in the sides and floor of the oven, so that a minimum amount of the heat is lost, and altogether there is no doubt that these ovens are more economical than the Beehives.

With the object of comparing the imported Cokes in actual use at Broken Hill with those now manufactured in the Colony, samples were at my request taken from the coke stacks at the Broken Hill Smelting Works by Mr. Geological Surveyor Jaquet, and were analysed by Mr. Mingaye.* The three samples taken were (1) Hood's (Welsh) Coke taken from the Broken Hill Proprietary Company's smelting works; (2) Brancepeth (Welsh) Coke from the Proprietary Company's works; and (3) Hood's (Welsh) Coke from the Central Broken Hill Company's works. The first of these contained only 4·75 per cent. of ash, but the second and third contained 7·80 and 9·70 per cent.

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* A former Report on the Manufacture of Coke in New South Wales by Mr. J. C. H. Mingaye, F.C.S., Analyst to this Department, together with supplementary remarks by Mr. Geological Surveyor David, B.A., F.G.S., was printed and laid before Parliament in October, 1890.

respectively. These percentages appeared to be so high compared with the composition claimed for the imported coke, that I determined to check the results by an examination of the foreign cokes as they arrive at Port Pirie. With this object in view six samples were taken for me at Port Pirie by Mr. Hebbard, Inspector of Mines. The samples were analysed by Mr. Mingaye, and the results were as follow :—(1) Westport (New Zealand) Coke containing 7·15 per cent. of ash ; (2) Hamburg (German) Coke containing 9·20 per cent. of ash ; (3) Shamrock (German) Coke containing 7·30 per cent. of ash ; (4) Brancepeth (Welsh) Coke containing 5·50 per cent. of ash ; (5) Hood's (Welsh) Coke containing 8·20 per cent. of ash ; and (6) Hood's No. 2 (Welsh) Coke containing 5·85 per cent. of ash. The annexed table (B) shows the proximate analyses of the nine samples of foreign coke taken at Broken Hill and Port Pirie, together with that of fourteen samples of coke made in different parts of New South Wales. It will be observed that some of the Welsh Coke used at Broken Hill contains a higher percentage of ash than the Colonial Coke made by either the Purified Coal and Coke Company, Wallsend, or the Singleton Colliery Companies ; also, that the *average percentage* of ash, calculated from the nine samples of foreign cokes in use at, or in transport to Broken Hill, amount to 7·26, which is only 0·6 per cent. lower than is contained by the coke made at the Purified Coal and Coke Company's ovens, Wallsend. Also, having in view the improvements that are possible in the manufacture of Colonial Coke by the adoption of more complete washing plants, it will be seen by reference to table A that two samples of coke, containing less than 6½ per cent. of ash, were made in the Laboratory from hand-washed coal, from the Co-operative (Newcastle) and Mount Pleasant (Southern) Collieries, while a coke has been made from the Newcastle-Wallsend coal, closely approximating, in the percentage of ash it contains (7·51) to the average of the Coke used at Broken Hill.

With regard to the strength of Coke, or its capacity for resisting the crushing weight of the ore burden in the furnace, it has been asserted that the colonial-made article is much inferior to the imported. It was proposed that a practical test of the relative merits in this respect of the colonial and foreign cokes should be made in the furnaces at the Clyde Smelting Works. It appeared to me, however, that to make such a test satisfactorily would be both difficult and expensive. The furnace would have to be run for several weeks with the same ore in order to ascertain the strength of each sample of coke to be tested, and I therefore decided to adopt a simpler method of testing, which though not absolutely free from objections, may, I think, be taken as fairly conclusive in regard to the relative strength of the different cokes tested.

I had cubes of some sixteen varieties of foreign and colonial cokes carefully cut on an emery wheel, and these were then forwarded to the University, where their crushing strength was ascertained in the testing machine. Professor Warren was good enough to devote a great amount of care to these tests, and the results, which are appended in Table C, are somewhat surprising. Four of the samples tried were foreign cokes, and twelve were of New South Wales manufacture, and the latter, with one exception, exhibited better pressure-resisting qualities than any of the foreign samples. The reason why only four of the foreign cokes were tried was that the balance of the other samples collected for me at Port Pirie were too small to allow of cubes being cut from them.

Without placing too much importance upon the results of these tests, I think they demonstrate beyond doubt that the average strength of the cokes made in this Colony is much superior to some, at any rate, of the imported cokes used in the smelting works of Broken Hill.

It will also be noticed that the Bulli Coke, which is the only one made in rectangular ovens, is superior in strength to all the other cokes, which are manufactured in Beehive Ovens.

In regard to freight rates there appears to be no doubt that the coke manufacturers of New South Wales labour under a disadvantage, so far as the Broken Hill trade is concerned, compared with the manufacturers of British and German Coke. I have made inquiries from several shipping firms, and am informed that while the freight from British and German ports to Port Pirie is now about 16s. per ton it has been as low as 9s. On the other hand the cost of freight on coke from Newcastle to Port Pirie varies from 15s. to 18s. per ton.

The conclusions which I have arrived at may be summarised as follow :—

(1.) That there is room for material improvement in the manufacture of Colonial Coke, both in the direction of reducing the ash, and increasing the density or capacity for resisting pressure, and these improvements can best be achieved by a more perfect system of coal-washing, and by the use of a more modern type of Coke Oven.

(2.) That some of the cokes at present manufactured in New South Wales are nearly equal as regards ash to the *average* of the imported Cokes in use at the Broken Hill smelting works.

(3.) That several of the cokes at present manufactured in New South Wales are superior (as regards percentage of ash), to some of the imported Cokes in use at Broken Hill.

(4.) That in regard to strength, or capacity for resisting pressure, the Cokes manufactured in New South Wales are superior to some of the imported Cokes at present in use at Broken Hill.

I have, &c.,

EDWARD F. PITTMAN, A.R.S.M.,
Government Geologist.

The Under Secretary for Mines.

TABLE A.

TABLE showing Analyses of Washed and Unwashed Samples of New South Wales Coals.

Description of Coal.	Analysis of Coal as received.						Analysis of Coal after being washed in the Laboratory.					
	Moisture at 100° C.	Volatile Hydro-carbons.	Fixed Carbon.	Ash in Coal.	Percentage of Coke.	Ash in Coke.	Moisture at 100° C.	Volatile Hydro-carbons.	Fixed Carbon.	Ash in Coal.	Percentage of Coke.	*Ash in Coke.
Unwashed coal, from the Co-operative Colliery's Coke Ovens	2·85	34·70	55·60	6·85	62·45	10·96	1·60	37·35	57·20	3·85	61·05	6·30
Unwashed screened coal, from Mount Pleasant Colliery	0·95	24·90	63·50	10·65	74·15	14·36	0·65	26·20	68·45	4·70	73·15	6·42
Washed coal, from Purified Coal and Coke Company's Coke Ovens, Wallsend	2·50	35·90	56·40	5·20	61·60	8·44	1·35	36·80	57·20	4·65	61·85	7·51
Washed coal, from Singleton Colliery Coke Ovens	3·05	35·85	53·35	7·75	61·10	12·68	1·65	36·70	56·50	5·05	61·65	8·19
Unwashed, unscreened coal, from Mount Pleasant Colliery	0·85	23·85	64·85	10·45	75·30	13·87	0·75	26·10	67·15	6·00	73·15	8·20
Unwashed crushed slack, from Unanderra Coke Works, Wollongong	1·15	24·40	64·40	10·05	74·45	13·49	0·55	25·90	67·25	6·30	73·55	8·56
Unwashed coal, from Brown's Minmi Colliery	2·55	34·15	53·35	9·95	63·30	15·71	2·10	37·80	54·95	5·15	60·10	8·56
Unwashed small coal, from Singleton Colliery Coke Ovens	3·40	32·60	48·60	15·40	64·00	24·06	2·20	36·80	55·45	5·55	61·00	9·09

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* This represents the percentage of Ash in the Coke made by hand in the Laboratory from the hand-washed Coal. It is probable that better results could be obtained if the Coke were made on the large scale in rectangular Coke Ovens.

Table B.

Analyses of Foreign and New South Wales Cokes.

Description of Coke.	Hygroscopic Moisture.	Volatile Hydro-carbons.	Fixed Carbon.	Ash.	Sulphur.	Specific Gravity.
A.—Foreign Cokes.						
Hood's (Welsh) Coke, from Broken Hill Proprietary Smelting Works	0·70	1·00	92·71	4·75	0·84	1·864
Brancepeth (Welsh) Coke, from Port Pirie	0·80	0·85	91·93	5·50	0·92	1·843
Hood's (Welsh) Coke, No. 1, taken from Port Pirie	0·20	0·30	92·71	5·85	0·94	1·928
Westport (New Zealand) Coke, taken from Port Pirie	0·85	1·05	89·53	7·15	1·42	1·827
"Shamrock" Westphalia (German) Coke, taken from Port Pirie	0·35	0·15	89·69	7·30	2·51	1·820
Brancepeth (Welsh) Coke, from Broken Hill Proprietary Smelting Works	0·62	1·63	89·20	7·80	0·75	1·942
Hood's (Welsh) Coke, sample No. 2, taken from Port Pirie	1·30	1·00	88·19	8·20	1·31	1·834
Hamburg (German) Coke, taken from Port Pirie	0·35	0·55	88·58	9·20	1·32	1·851
Hood's (Welsh) Coke, from the Central Broken Hill Smelting Works	0·36	0·37	88·86	9·70	0·71	2·030
B.—Colonial Cokes.						
Purified Coal and Coke Company's Coke, Wallsend, sample No. 1, made from washed coal	0·40	0·02	91·33	7·82	0·43	1·964
Purified Coal and Coke Company's Coke, Wallsend, sample No. 2, made from washed coal	0·41	0·51	90·54	8·01	0·53	1·837
Purified Coal and Coke Company's Coke, sample No. 3, made from washed coal	0·42	0·00	90·79	8·38	0·41	1·850
Singleton Colliery Coke, Rix's Creek, made from washed coal	0·67	0·11	89·02	9·67	0·53	1·798
Co-operative Colliery Coke, sample No. 1, made from unwashed coal	1·87	0·27	87·77	10·45	0·64	1·844
Unanderra (Wollongong) Coke, made from unwashed crushed slack	0·29	0·15	87·55	11·56	0·45	1·934
Co-operative Colliery Coke, sample No. 2, made from unwashed coal	0·22	0·34	86·71	12·06	0·67	1·813
Brown's Minmi Colliery Coke, made from unwashed coal	0·62	0·32	85·65	12·62	0·79	1·737
Bulli Colliery Coke, made from washed coal	1·15	0·90	83·98	13·40	0·57	1·629
Mount Pleasant Coke, No. 1, made from unwashed screened coal	0·67	0·18	84·40	14·11	0·64	1·902
Mount Pleasant Coke, No. 2, made from unwashed screened coal	0·75	0·26	84·41	14·15	0·43	1·879
Mount Pleasant Coke, No. 3, made from unwashed unscreened coal	1·07	0·31	83·78	14·45	0·39	1·877
Vale Colliery (Lithgow) Coke made from washed coal	1·08	0·12	82·74	15·47	0·59	1·829
Mount Pleasant Coke, No. 4, made from unwashed screened coal	0·90	0·18	83·01	15·66	0·25	1·660

TABLE C.

CRUSHING Strength of Coke Samples tested by Professor Warren, M.I.C.E.

No. of Sample.	Description of Coke.	Size of cube in inches.	Area in square inches.	Volume in cubic inches.	Weight in grains.	Weight in grains per cubic inch.	Total crushing force in pounds.	Crushing strength per square inch.	emarks.
1	Hood's South Wales (Welsh) Coke No. 2, taken from Port Pirie.	1·045	1·092	1·1412	267·5	234·4	800	765	Sound specimen.
2	Brancepeth North Wales (Welsh) Coke, taken from Port Pirie.	1·035	1·071	1·1087	280·0	252·5	570	551	Cracked.
3	Shamrock, Westphalia (German) Coke, taken from Port Pirie	1·045	1·092	1·1412	264·4	231·7	500	478	Sound specimen cracked at 250lb.
4	Westport (N. Zealand) Coke, taken from Port Pirie	1·010	1·020	1·0303	203·0	197·0	755	747	Sound specimen.
5	Purified Coal and Coke Company's Coke, Wallsend	1·038	1·077	1·1184	243·1	217·4	1,700	1,368	Slight crack at base.
6	„ „ „ „	1·290	1·664	2·1467	502·2	234·0	2,450	1,899	Slightly cracked all over.
7	„ „ „ „	2·030	4·121	8·3654	1963·7	234·7	3,500	1,724	Cracked across base.
8	„ „ „ „	1·660	2·756	4·5743	1066·8	233·2	3,955	2,383	„
9	Co-operative Colliery (Newcastle) Coke	1·010	1·020	1·0303	201·7	195·8	625	619	„
10	„ „ „	1·295	1·677	2·1718	481·0	221·5	1,500	1,158	„
11	„ „ „	1·154	1·332	1·5368	341·3	222·1	1,550	1,343	„
12	Singleton Colliery Coke (Rix's Creek)	1·275	1·626	2·0727	433·8	209·3	2,350	1,843	„
13	„ „ „	1·039	1·080	1·1216	251·2	224·0	1,155	1,112	„
14	„ „ „	1·740	3·028	5·2680	1162·8	220·7	3,500	2,011	„
15	Bulli Colliery Coke	1·276	1·628	2·0775	535·2	257·6	3,155	2,473	Sound specimen.
16	„ „	1·040	1·082	1·1249	310·0	275·6	3,250	3,125	„

SHALE.

The output of boghead mineral or petroleum oil cannel coal, commonly called shale, in 1892 is the largest we have yet had, exceeding that of 1891 by 33,848 tons, and exceeding the largest previous output by 18,187 tons. The price in 1892 was some 2s. per ton lower than in 1891, and the lowest since 1882.

The following table shows the quantity and value of Kerosene Shale produced during the years 1865 to 1892:—

Year.	Quantity.	Average price per ton.			Total value.		
	Tons.	£	s.	d.	£	s.	d.
1865	570	4	2	5·47	2,350	0	0
1866	2,770	2	18	10·48	8,150	0	0
1867	4,079	3	14	9·21	15,249	0	0
1868	16,952	2	17	7·11	48,816	0	0
1869	7,500	2	10	0·00	18,750	0	0
1870	8,580	3	4	3·18	27,570	0	0
1871	14,700	2	6	3·91	34,050	0	0
1872	11,040	2	11	11·91	28,700	0	0
1873	17,850	2	16	6·55	50,475	0	0
1874	12,100	2	5	1·48	27,300	0	0
1875	6,197	2	10	2·22	15,500	0	0
1876	15,998	3	0	0·00	47,994	0	0
1877	18,963	2	9	0·81	46,524	0	0
1878	24,371	2	6	11·40	57,211	0	0
1879	32,519	2	1	1·96	66,930	10	0
1880	19,201	2	6	7·03	44,724	15	0
1881	27,894	1	9	2·59	40,748	0	0
1882	48,065	1	15	0·00	84,114	0	0
1883	49,250	1	16	10·77	90,861	10	0
1884	31,618	2	5	7·86	72,176	0	0
1885	27,462	2	8	11·62	67,239	0	0
1886	43,563	2	5	10·79	99,976	0	0
1887	40,010	2	3	10·43	87,761	0	0
1888	34,869	2	2	2·66	73,612	0	0
1889	40,561	1	18	3·55	77 666	15	0
1890	56,010	1	17	2·07	104,103	7	6
1891	40,349	1	18	8·77	78,160	0	0
1892	74,197	1	16	8·16	136,079	6	0
	727,238	2	2	8·44	1,552,791	3	6

During the year the following Analyses of Shale were made in this Department :—

Kerosene Shale Analyses.

Locality.	Description of Mineral.	Analysis in 100·00 parts				Sulphur.	Specific Gravity.	Remarks.
		Hygroscopic Moisture.	Volatile Hydrocarbons.	Fixed Carbons.	Ash			
Bathurst District	Kerosene shale	4·40	44·68	6·61	44·31	...	...	No coke formed. Ash, grey, granular.
Blue Mountains	,,	·42	65·01	12·82	21·75	·274	1·174	Ash, grey, granular. No coke formed.
Burragorang (Upper)	,,	·55	45·00	26·30	28·15	...	...	Ash, grey, flocculent.
Capertee	Inferior kerosene shale	1·00	41·65	13·40	43·95	...	...	Ash, reddish tinge, slightly granular.
,,	,, ,,	1·58	51·18	18·18	29·06	...	..	No coke formed. Ash, grey and granular.
,,	,, ,,	·65	50·55	16·20	32·60	...	...	Ash, white, flocculent.
,, Valley	Kerosene shale	·70	58·85	19·45	21·00	...	...	Ash, greyish, granular.
,,	Inferior kerosene shale	·62	32·42	10·76	56·20	...	...	Coke, nil. Ash, grey, granular.
Doughboy Hollow, near Murrurundi.	Kerosene shale	2·25	57·30	7·30	33·15	...	...	Ash, white, granular. Coke, no true coke formed.
,, ,,	Inferior kerosene shale	5·40	32·35	5·00	57·25	...	...	No coke, a loose powder being left after ignition. Ash, white, granular.
,, ,,	,, ,,	4·70	35·85	7·00	52·45	...	..	No coke, a loose powder being left after ignition. Ash, white, granular.
,, ,,	Kerosene shale	·95	69·45	7·85	21·75	...	...	No coke, a loose powder being left after ignition. Ash, white, granular.
,, ,,	,,	2·85	58·45	6·25	32·45	...	...	No coke, a loose powder being left after ignition. Ash, white, granular.
Doughboy Hollow	,,	2·16	56·00	8·94	32·90	...	...	Coke, nil. Ash, reddish tinge, granular.
,,	Oil shale	3·28	47·80	12·07	36·85	...	...	No coke formed. Ash, grey, granular.
,,	Blue clay shale, struck at 269 ft. from surface.	6·65	20·47	2·31	70·57	...	...	No coke formed. Ash, white and heavy.
,,	Inferior oil shale	3·93	40·11	5·81	50·15	...	...	No coke formed. Ash, white, granular.

Locality.	Description of Mineral.	Analysis in 100·00 parts.				Sulphur.	Specific Gravity.	Remarks.
		Hygroscopic Moisture.	Volatile Hydrocarbons.	Fixed Carbons.	Ash.			
Gunnedah District	Shale with a number of thin bright bituminous layers of coal.	1·55	49·10	27·05	22·30	...	...	Ash, reddish tinge, slightly granular.
Grafton District	Kerosene shale	1·33	78·87	7·60	12·20	·58	1·115	Ash, light grey.
Genowlan, near Capertee	(I.)—Crushed sample of kerosene shale.	·43	67·17	17·21	15·19	·398	1·160	Ash, grey in colour, granular. No coke formed.
	(II.) ,, ,,	·30	67·12	17·31	15·27	·398	1·160	
Ilford, near	Kerosene shale	1·70	39·55	18·20	40·55	...	...	Ash, grey, dense.
Mudgee District.............	,, ...	·30	73·25	16·25	10·20	·754	1·108	Ash, red.
,, ...	,, ...	·25	78·00	10·80	10·95	·689	1·129	Ash, reddish tinge.
Marrangaroo	,, ...	·25	65·55	5·60	28·60	·796	1·209	Ash, reddish tinge.
,, (900 yards from railway).	,, ...	·30	57·25	6·70	35·75	·618	1·283	Ash, reddish tinge. No coke formed.
Marrangaroo	,, ...	·54	66·76	6·13	26·57	·56	1·202	No coke formed. Ash, grey in colour, granular.
,, ...	,, ...	·25	64·23	5·70	29·82	·52	1·228	No coke formed. Ash, grey in colour, granular.
,, ...	,, ...	·10	67·40	4 95	27·55	...	...	Ash, reddish tinge.
,, ...	,, ...	·20	61·55	5·55	32·70	...	...	Ash, reddish tinge.
24 miles from Mudgee, direction of Dubbo.	Inferior kerosene shale ...	5·90	55·95	7·75	30·40	...	...	Ash, white.
12 miles south of Mudgee	Kerosene shale	·30	77·90	8·20	13·60	·975	1·008	Ash, grey in colour, granular.
Mudgee	,, ...	·50	77·80	7·70	14·00	·878	1·107	Ash, reddish tinge.
Rylstone, near	,, ...	1·30	56·10	21·55	21·05	...	...	Ash, reddish tinge, flocculent.
Taree District	Water-worn boulder of kerosene shale.	·50	66·10	8·80	24·60	...	...	Ash, grey, flocculent.
Wallerawang................	Kerosene shale	·50	56·90	7·05	35·55	...	...	Ash, reddish tinge.

SILVER AND LEAD.

The strike at Broken Hill has caused a serious decrease in our output of silver and lead, and the fall in the price of silver has greatly reduced the value of the products of our silver mines, the value in 1892 being less by £1,141,753 than in 1891. Considering the length of time the principal mines were idle it is highly satisfactory that the value of the output reached nearly two and a half millions sterling. I am happy to say there are indications of revival in some of the mines in other parts of the Colony, where for some time past silver-mining has been practically abandoned.

No effort is being spared to solve the problem how to treat profitably our sulphide ores, and upon the solution of that problem to a great extent depends the future of silver-mining in this Colony.

QUANTITY and Value of Silver, and Silver-lead, and Ore exported.

Year.	Silver.				Silver-lead, and Ore.									Total Value.
	Quantity.	Value.			Quantity.						Value.			
					Ore.				Metal.					
Up to	oz.	£	s.	d.	Tons	cwt.	qr.	lb.	Tons	cwt.	£	s.	d.	£
1881..	726,779·14	178.405	0	0	191	13	0	0	....		5,025	0	0	183,430
1882...	38,618·00	9,024	0	0	11	19	0	0	....		360	0	0	9,384
1883...	77,065·18	16,488	0	0	136	4	0	0	... .		2,075	0	0	18,563
1884..	93,660·25	19,780	0	0	9,167	11	1	7	....		241,940	0	0	261,720
1885...	794,173·80	159,187	0	0	2,095	16	0	0	190	8	107,626	0	0	266,813
1886...	1,015,433·10	197,544	0	0	4,802	2	0	0	....		294,485	0	0	492,029
1887...	177,307·75	32,458	0	0	12,529	3	2	0	....		541,952	0	0	574,410
1888...	375,063·70	66,668	0	0	11,739	7	0	0	18,102	5	1,075,737	0	0	*1,142,405
1889...	416,895·35	72,001	0	0	46,965	9	0	0	34,579	17	1,899,197	0	0	1,971,198
1890...	496,552·80	95,410	0	0	89,719	15	0	0	41,319	18	2,667,144	0	0	2,762,554
1891...	729,590·05	134,850	0	0	92,383	11	0	0	55,396	3	3,484,739	0	0	3,619,589
1892...	350,661·50	56,884	0	0	87,504	15	0	0	45,850	4	2,420,952	0	0	2,477,836
	5,290,800·62	1,038,699	0	0	356,977	5	3	7	195,438	15	12,741,232	0	0	13,779,931

* NOTE.—In the Annual Report for 1888, 11,739 tons 7 cwt. of silver ore valued at £164,620 was omitted from the table.

The bulk of the silver is exported as silver-lead or in the ore.

The following information in connection with the silver-mining industry is taken from reports furnished by the Wardens and Mining Registrars :—

At Broken Hill, the principal seat of silver-mining in this Colony, the unfortunate strike, which lasted about four months during the year, was the means of seriously interfering with this most important industry. This, coupled with the gradual decrease in the market value of silver, has resulted in an almost total cessation of prospecting operations. The quantity of ore raised in the district during the year was 403,132 tons, valued at £2,479,692, as compared with 471,101 tons, valued at £3,960,676, in 1891. This shows a decrease in value of £1,480,984, which is directly traceable to the disastrous and unforeseen events before mentioned. A difficulty is experienced in giving the exact quantity in ounces of the silver won from this field, it being chiefly exported in the form of silver-lead bullion, but as near as can be ascertained the output for the year was 12,969,195 oz. as compared with 17,243,807 oz. in 1891. In connection with the silver-mining operations, 223 tons of copper were also obtained, valued at £9,240. It is satisfactory to learn that a good water supply for the town and mines is assured for the next eighteen months, which will allow of work proceeding without stoppage.

At Nuntherungie mining operations are in a languishing state, and the field has not shown that development expected, consequently the proposed smelting works have not been proceeded with.

At Mitchell, the Sunny Corner Silver-mining Company only worked a few months during the year, the output being 108,462 oz. of silver valued at £17,654 6s. 6d., 21 tons of lead valued at £189, and 77 tons of copper valued at £3,388. The total output from the mine amounted to £26,740, which includes gold to the value of £5,508. The Phœnix Mine at Daylight Creek, worked by Mr. Lewis Lloyd, put out 58 tons of ore.

At Rockley, Baker Bros., from their silver leases at Back Creek, having erected a small plant, turned out 175 tons of matte valued at £2,630. The Mount Costigan Mine, near Tuena, has again resumed operations, after being closed for about two years.

At Lewis Ponds, the Spicer's Syndicate Gold and Silver Mining Company raised 1,739 tons of ore, which yielded 35,757 oz. of silver valued at £5,363 11s., 48 tons of silver-lead valued at £384, copper to the value of £165 8s., and £2,230 worth of gold.

At Denison Town, or Leadville, as it is now known, the Mount Stewart Silver-mining Company have completed the erection of their smelting plant, and produced 145,389 oz. of silver from 943 tons of ore. To the efforts of this company is due the permanent establishment of the silver-mining industry in this district, and under the able management of Captain Scobie further development may be looked forward to. On the same line, and about 1¼ miles to the south-west, the Mount Scott Mine is being opened up with rigour, which is expected to prove a valuable addition to the field. Several other mines in the locality are in course of being opened up. At Captain's Flat, the Lake George Silver and Copper Mining Company, lately known as the Commodore Vanderbilt, treated during the year 7,322 tons of ore, which yielded 8,824 oz. of silver, 156 oz. of gold, and 671 tons of copper, valued at £29,827. The new Kohinoor Company raised during the year 11,900 tons of ore, which yielded 83,050 oz. of silver, 785 oz. of gold, and 556 tons of copper, of the total value of £32,750.

At Pambula, the Great Jingera Silver-mining Company raised 31 tons of ore, which gave a return of 6,107 oz. of silver, 3½ tons of bismuth, and 12 oz. of gold, of a total value of £2,343.

The Moruya Silver-mining Company, at Moruya, is still carrying on prospecting operations, and have 600 tons of ore at grass. Work is, however, suspended, awaiting the erection of pumping machinery.

At Deepwater the Castlerag Syndicate despatched 12 tons of silver ore, but the returns are not yet to hand. The Webb's Consols Silver-mining Company, near Emmaville, raised during five months of the year ore to the value of £1,100. The Mascotte Gold and Silver Mining Company, near Drake, have 1,000 tons of ore at grass, which is estimated to yield 31 oz. of silver and 16 dwt. of gold per ton. At Rivertree a leaching plant has been erected at great expense. The Rivertree Proprietary Company have a lot of ore in sight, and ready to begin stoping. The Rivertree No. 1 Company is doing a lot of prospecting work. The Rivertree Central sent 40 tons to Queensland for treatment, which gave a return of 170 oz. of silver per ton. The Rivertree South had 8½ tons treated at the same place, which returned 200 oz. per ton. The results from the new leaching works will have a great bearing on the future of this field, and better returns may be expected when it gets into full work.

SILVER.

During the year 3,156 samples were assayed for silver in the Laboratory of this Department.

1,522 yielded nil.
1,468 yielded under 20 oz. per ton.
166 yielded as follows:—

Locality.	Description.	Per ton.					
		Gold.			Silver.		
		oz.	dwt.	gr.	oz.	dwt.	gr.
Adaminaby (6 or 8 miles from)	Brown iron ore, with chloride of silver	287	2	16	Trace.		
" " ...	" " "	70	15	13	"		
Ashford (9 miles from) ...	Mispickel in siliceous felspathic veinstone	36	10	7	"		
Armidale (north of)	Galena, with pyrites	76	15	8	Nil.		
Albury (near No Place, Silver Valley).	Quartz, with galena..............................	230	18	2	"		
Boro District	Carbonate of lead, with a little carbonate of copper, in soft kaolin.	67	1	12	Nil.		
Boonoo Boonoo	Powdered quartz..................................	134	0	20	0	8	16
" "	Ferruginous pyritous quartz	133	9	22	Trace.		
" "	" "	48	16	16	0	3	6
" "	Crushed sample	43	15	10	4	2	17
" "	" "	54	8	21	4	18	0
" "	" "	75	6	20	Trace.		
" "	" "	20	2	21	"		
" "	Quartz, with iron and arsenical pyrites	31	9	8	"		
Bungonia & Marulan (between)	Carbonate of copper	29	7	23	"		
Bungonia (Spring Creek)..	Galena, blende, and copper pyrites, with a little quartz.	22	6	7	"		
Bowra District...............	Quartz, with specks of iron pyrites	28	17	2	"		
Berrima (20 miles west of)	Galena	40	3	14	Nil.		
Burragorang	Galena, with quartz and iron pyrites	86	17	9	0	4	8
"	Galena, with crystallised quartz	40	5	8	Trace.		
" (30 miles from)	" quartz	39	14	21	"		

Locality.	Description.	Per ton.					
		Silver.			Gold.		
		oz.	dwt.	gr.	oz.	dwt.	gr.
Burragorang	Galena, with quartz	54	19	18	Trace.		
”	Ferruginous quartz, with a little galena, also one piece of galena with quartz.	23	3	19	”		
”	Galena, with ferruginous quartz and pyrites	69	13	15	”		
Borah Creek (Inverell)	Concentrated galena, blende, and pyrites	84	2	8	”		
” ”	Galena and a little copper pyrites, with quartz and felspathic gangue.	41	3	2	”		
” ”	Micaceous quartz and felspathic lodestuff, with galena and blende.	34	9	6	0	3	6
” ”	Crushed galena, blende, and pyrites	73	14	8	0	2	4
Bredbo	Ferruginous gossan	31	19	2	0	3	6
”	Carbonate of lead, with a little galena	27	15	4	Trace.		
Back Creek, near Rockley	Quartz veinstone in talcose schist, carrying sulphides of zinc, antimony, iron, and lead.	64	7	0	0	19	11
Coonabarabran	Brecciated silicious felsitic rock, with a little pyrites.	51	16	14	Trace.		
Condobolin	Porous ferruginous quartz	737	3	13	144	16	10
”	Galena	34	19	1	Nil.		
Colwal Lake	Galena, with a little blende, quartz, and pyrites	45	14	15	Trace.		
Camden District	Galena, with a little quartz	46	16	10	”		
Clarevaulx (near Glen Innes)	” ” blende	20	6	3	”		
Cowra (near)	Siliceous gossan, with carbonate of lead	36	9	13	0	6	12
Casino	Ferruginous quartz and felspathic material, with galena and mispickel.	34	19	1	Nil.		
Deepwater District	Galena, blende, and copper and arsenical pyrites, in felspathic material.	27	4	10	Trace.		
” ”	Chlorite, with copper pyrites	122	18	16	”		
” ”	Crushed sample containing galena	35	5	4	”		
” ”	Copper pyrites, with quartz and clay gangue	148	12	15	Nil.		
Denison Town (near)	Ferruginous quartz, with grey sulphide and green carbonate of copper.	1,011	7	4	Trace.		
Drake	Ferruginous quartz showing free gold	46	12	0	770	0	22
Emmaville District	Galena, a little blende and copper pyrites	114	17	12	Trace.		
” ”	Crushed galena, with a little copper and iron pyrites and blende in felspathic gangue.	27	8	18	0	6	12
” ”	Crushed galena, quartz, iron and copper pyrites	29	3	14	Trace		
” ”	Crushed felspathic material, with galena and mispickel.	22	4	6	”		
” ”	” ” ”	24	9	23	”		
” ”	Crushed galena and mispickel	38	2	5	”		
” ” (Mt. Argent)	Ferruginous quartz	21	15	13	”		
Frogmore (near Burrowa)	Ferruginous galena	56	12	10	Nil.		
Grafton	Quartz, with galena and a little protoxide of lead	29	18	20	17	19	8
Glen Innes	Quartz with blende, galena, pyrites, and chlorite	52	16	5	Trace.		
” (10 miles east)	Sulphides of lead, iron, and zinc	29	0	8	”		
Inverell District	Quartz, stained with arseniate of iron	35	7	18	”		
”	Quartz and felspathic veinstone, with specks of galena, blende, and stains of copper carbonate.	30	18	11	”		
”	Silicious chlorite veinstone, with specks of blende, galena, and copper pyrites.	22	19	11	”		
”	Felspathic veinstone, with sulphides of lead, copper and zinc.	26	15	17	”		
”	Galena, mispickel, and copper pyrites, in felspathic material.	21	19	21	1	1	18
”	Felspathic material, with green carbonate of copper.	37	0	10	Nil.		
”	Ferruginous quartz and felspathic veinstone	25	16	0	”		
”	Galena	24	5	14	Trace.		
Kempsey (Kullatine Silver-field)	Iron and arsenical pyrites, with quartz	28	6	4	”		
” ”	Massive arsenical and iron pyrites with quartz	31	16	22	”		
Larry's Flat (Licking Holes)	Quartz, with sulphide and carbonate of copper	47	7	7	Nil.		
Mount Costigan	Crushed grey sulphide and blue and green carbonates of copper with quartz.	22	10	15	Trace.		

Locality.	Description.	Per ton.					
		Silver.			Gold.		
		oz.	dwt.	gr.	oz.	dwt.	gr.
Mount Costigan	Crushed gossan	28	17	2	Trace.		
,,	Ferruginous gossan, with carbonates of lead and copper.	48	4	16	,,		
,,	Crushed sample	29	2	13	0	15	10
,,	,,	36	10	2	0	1	15
,,	Sulphides of zinc, lead, copper, and iron	26	2	15	Nil.		
,,	,, ,, ,, ,, ,,	20	2	21	,,		
,,	Gossan, with pyrites	28	6	4	Trace.		
,,	Sulphides of zinc, lead, copper, and iron	24	12	3	,,		
,,	Sulphides of zinc, lead, copper, and iron, with a little blue carbonate of copper and quartz.	30	16	5	,,		
,,	Ferruginous gossan, with carbonate of lead	22	6	9	,,		
,,	,, ,, ,,	58	12	17	0	3	6
,,	Sulphides of zinc, iron, and lead, with a little copper sulphate.	22	12	9	0	4	8
Mudgee (16 miles from)	Pyrites, with galena	63	10	18	0	14	0
,, District	Galena, with carbonate of lead	74	6	7	Trace.		
,, ,,	Galena	37	0	10	,,		
,, ,,	Zinc blende, with a little pyrites	39	14	21	,,		
,, ,,	,, ,, copper pyrites	47	7	7	,,		
,, ,,	Gossan	87	12	23	,,		
,, ,,	,, with carbonate of lead	28	18	4	,,		
Moonabah (Macleay River)	Yellow gossan	49	0	0	,,		
,, ,,	,,	45	5	22	,,		
,, ,,	Iron and arsenical pyrites in quartz gangue	20	2	21	Nil.		
,, ,,	,, ,, ,,	26	4	19	Trace.		
,, ,,	,, ,, ,,	26	11	8	,,		
,, ,,	Crushed siliceous carbonate of zinc	26	18	23	0	16	4
,,	Rubble, consisting of siliceous zinc carbonate, oxide and carbonate of copper, and chloride of silver.	491	12	16	Nil.		
,,	Concentrated blende, galena, iron and arsenical pyrites, and quartz.	307	1	6	Trace.		
,,	Sulphides of iron, lead, and zinc	26	2	15	,,		
,,	Mispickel and iron pyrites in quartz and felspathic veinstone.	30	16	6	,,		
,,	Quartz and felspar, with a few specks of pyrites and blende.	21	4	16	,,		
,,	Quartz and felspar veinstone	24	9	23	,,		
,,	Quartz and felspar veinstone, with mispickel and stibnite.	21	15	23	,,		
Mount Stewart	Gossan, with carbonate of lead and pieces of galena.	120	19	11	,,		
Mount Tinda	Galena, with quartz	44	17	4	,,		
,,	,,	44	6	4	,,		
,,	,, with a little quartz and pyrites	30	14	2	,,		
Mount Gipps	Ferruginous quartz, with stains of copper carbonate.	83	5	23	Nil.		
Macleay River	Decomposing felspar, with quartz veins and nodules of pyrites, galena, and blende.	50	8	6	Trace.		
,, (Burnt Bridge)	Mispickel, with pyrites	20	19	4	,,		
Melrose	Galena, blende, and pyrites, with quartz	30	16	6	Nil.		
Mann River (The Bluff)	Ferruginous quartz	36	9	13	5	8	21
Mitchell	,, ,,	58	5	2	Trace.		
,,	Quartz, with a little pyrites	37	0	10	,,		
Molong District	Micaceous felspathic rock, with a little pyrites	39	17	1	0	19	11
Narrangarie	Ferruginous quartz	66	8	9	Trace.		
Newbridge	,, ,,	60	15	0	3	9	16
,,	Quartz, with blende, pyrites, and slate	27	8	18	0	15	2
,,	Ferruginous pyritous quartz	46	12	0			
Nuntherungie	Brown iron ore, with carbonate of lead and a piece of galena.	204	14	5	Trace.		

Locality.	Description.	Per ton.					
		Gold.			Silver.		
		oz.	dwt.	gr.	oz.	dwt.	gr.
Oban	Quartz, with galena, mispickel, and pyrites	55	10	15	Trace.		
,,	Crushed quartz and mispickel	34	6	0	,,		
Ophir District, near Orange	Porous, ferruginous, pyritous quartz	28	10	12	,,		
Orange District	Cavernous, ferruginous quartz, with pyrites	117	7	13	0	4	8
,,	Cavernous, ferruginous quartz	54	8	21	Trace.		
,,	,, ,,	26	0	11	,,		
,,	Ferruginous gossan	29	18	20	Nil.		
Oberon District	Galena, with quartz	145	11	15	,,		
,,	,, ,,	150	16	3			
Pye's Creek	Chlorite and garnet rock, with galena	47	18	4	Trace.		
,,	,, ,, ,,	54	8	21	,,		
,,	Mispickel, with galena	28	12	16	,,		
,,	Gossan	38	9	19	0	3	6
,,	Blende, mispickel, and galena in felspathic veinstone.	30	5	8	Trace.		
,,	Quartz, with carbonate of lead and galena	35	18	16	Nil.		
,,	Galena, blende, and mispickel in chlorite and garnet rock.	29	18	20	Trace.		
,,	Galena and blende in chlorite and garnet rock.	40	16	15	,,		
Plant Creek (near Emmaville.)	Ferruginous quartz and clay, with sulphides of lead and copper and carbonates of lead and copper.	20	2	21	Nil.		
Purnamoota	Siliceous brown iron ore, with galena, two pieces of carbonate of lead, and several pieces of carbonate of iron, with sulphides of zinc and lead.	48	3	14	Trace.		
Solferino	Quartz, with blende, galena, and pyrites	52	9	16	,,		
Sunny Corner	Quartz, with a little pyrites	62	10	0	Nil.		
Scone (6 miles from)	Galena, with a little carbonate and oxide of lead	119	15	6	Trace.		
Tilga Mt.	Ferruginous quartz, with carbonate of lead	32	18	18	Nil.		
Tenterfield (14 miles S.E. of)	Quartz, with galena	29	16	16	0	13	0
Turlinjah	,, arsenical pyrites	35	18	16	3	5	8
,,	,, ,, and iron arseniate	31	10	10	0	3	6
Tuena	Quartz, a few specks of pyrites present	25	5	5	28	10	12
,, (near)	Brown iron ore, with a few stains of copper carbonate.	30	9	18	Trace.		
,, ,,	Ferruginous gossan, with blue and green carbonates of copper and carbonate of lead.	36	13	21			
Thirlmere	Pyritous quartz	74	11	18	0	10	21
,,	Quartz, with galena and pyrites	204	7	16	0	6	12
Tarana	Mispickel, with quartz, a little galena and pyrites present.	20	15	22	0	19	11
Wallangra (near)	Ferruginous felspathic material, stained with iron arseniate.	33	15	2	Trace.		
,, ,,	,, ,, ,,	31	0	15	,,		
,, ,,	,, ,, ,,	114	6	15	,,		
Wee Jasper	Quartz, with sulphides of lead, copper, and zinc	49	4	8	,,		
Wellington	Ferruginous quartz, with slight stains of copper carbonate.	52	5	8	,,		
,, (5 miles from)	Ferruginous quartz, with blue and green carbonates of copper and a little grey sulphide of copper.	35	16	11	,,		
Whipstick	Felspar veinstone, with chloride of silver and oxide of bismuth.	3,336	0	13	,,		
,, Ranges	Crushed quartz and felspathic material	66	19	16	,,		
,, ,,	,, ,, ,,	117	19	14	0	3	6
Westmoreland (County of, Parish of Blenheim).	Mispickel in quartz	92	11	2	Trace.		
,, ,,	Galena, with quartz	142	12	20	,,		
West Kempsey	Silicious yellow gossan	54	8	21	Nil.		
Wiseman's Creek (4 miles S.W. of)	Ferruginous siliceous gossan	30	9	18	Trace.		
Yalwal	,, quartz	29	7	23	,,		
,,	,, ,,	44	12	20	,,		

LEAD.

During the year eighty-one assays were made for Lead in the Laboratory of this Department, the following yielding over 10 per cent. :—

Locality.	Description of Ore.	Per Cent. of Lead Metallic.	Per ton.			
			Gold.	Silver.		
			oz. dwt. gr.	oz.	dwt.	gr.
Barrier Ranges (Kaiser Mine).	Quartz, with a green hornblendic mineral.	17·62	Nil.	3	18	9
Bredbo	Ferruginous quartz, with carbonate and sulphide of lead.	41·40	,,	18	12	9
,,	Carbonate of lead in gossan	46·32	Trace.			
Bathurst District	Galena, with a little quartz	57·42	,,	9	16	0
Borah Creek, Inverell	Broken galena	40·68	Nil.	9	9	10
,, ,,	Crushed galena, blende, and pyrites	31·7	0 2 4	73	14	8
Burragorang	Galena, with crystallised quartz	72·0	Trace.	40	5	18
Boro District	Decomposing chlorite schist, with carbonate of lead and sulphide of zinc.	21·45	Nil.	9	15	23
,,	Carbonate of lead, with a little carbonate of copper in soft kaolin.	25·29	,,	67	1	12
Binalong (near)	Galena, with fluorite	53·76	,,	2	14	10
Bungonia (near)	Crushed sample, chiefly sulphides of copper and lead.	34·50	Trace.	8	7	15
,, (Spring Creek)	Sulphides of lead, copper, and zinc	47·55	,,	18	3	16
Cooma District	Galena and carbonate of lead with quartz.	48·0	....	18	18	22
,,	Quartz, galena, and carbonate of lead	17·08	Nil.	9	9	10
,,	Galena, blende, and pyrites	13·15	....	2	3	13
,,	Carbonate of lead and quartz	29·37	Nil.	6	6	3
,,	Galena and ferruginous carbonate of lead.	48·91	,,	5	2	8
,,	Carbonate of lead, with galena, and a little carbonate of copper.	51·20	,,	11	12	20
Camden District	Galena, with a little quartz	72·0	Trace.	46	16	10
Deepwater	Quartz and felsitic material, with a little galena.	13·42	,,	14	7	10
,,	Galena, blende, and copper pyrites	39·35	Nil.	17	14	22
,, District	Galena, blende, and copper and arsenical pyrites in felspathic material.	22·47	Trace.	7	12	10
,, ,,	,, ,, ,,	35·11	,,	27	4	10
,, ,,	Galena, blende, and copper and arsenical pyrites in felspathic material, only more metallic sulphides.	20·08	,,	7	18	22
,, ,,	Galena, blende, and copper pyrites	15·20	,,	9	7	6
,, ,, (13 mls. from)	Galena and blende in felspathic veinstone.	39·0	Nil.	7	3	17
Emmaville	Crushed sample of galena, quartz, and iron and copper pyrites.	50·4	Trace.	29	3	14
,,	Crushed felspathic material, with galena and mispickel.	21·72	,,	15	15	18
,,	,, ,, ,,	26·16	,,	22	4	6
,,	,, ,, ,,	26·54	,,	24	9	23
,,	Crushed galena and mispickel	41·09	,,	38	2	5
,,	Crushed galena, with a little iron pyrites and blende in felspathic gangue.	50·28	0 6 12	27	8	18
Inverell	Porous felspathic material, with carbonate of lead.	13·97	Nil.	9	1	19
Mount Galena	Galena and blende in chlorite and garnet rock.	19·47	....			
Mount Costigan	Sulphides of zinc, lead, copper, and iron.	15·59	Nil.	26	2	15

Locality.	Description of Ore.	Per cent. of Lead Metallic.	Per ton.					
			Gold.			Silver.		
			oz.	dwt.	gr.	oz.	dwt.	gr.
Mount Costigan	Sulphides of zinc, lead, copper, and iron (zinc, 12·12 per cent.)	16·51	„			20	2	21
„	Sulphides of zinc, lead, copper, and iron (zinc, 12·51 per cent.)	14·92	Trace.			24	12	3
„	Ferruginous gossan, with carbonate of lead.	23·26	Nil.			22	6	9
„	„ „ ...	44·03	0	3	6	58	12	17
„	Crushed grey sulphide and blue and green carbonates of copper with quartz.	11·86	Trace.			22	10	15
„	Crushed gossan	21·82	„			28	17	2
„	Ferruginous gossan, with carbonates of lead and copper.	27·77	„			48	4	16
Mount Stewart, Leadville...	Gossan, with carbonate of lead, and several pieces of galena.	36·48	„			120	19	8
Nuntherungie (Great Nuntherungie Proprietary Mine).	Several pieces of brown iron ore, with carbonate of lead and one piece of galena.	38·6	„			204	14	5
Nuntherungie	Ferruginous granular quartz, with a little clay.	14·79	„			2	12	6
Nundle	Galena, blende, and pyrites	35·52	„			17	12	18
Pye's Creek	Galena, blende, and mispickel in chlorite and garnet rock.	19·05	„			29	18	20
„	Chlorite and garnet rock, with galena	22·0	„			47	18	4
„	„ „ „ ...	23·0	„			54	8	21
„	Blende, mispickel, and galena in felspathic veinstone.	33·57	„			30	5	8
„	Galena and blende in felspathic veinstone.	34·77	„			9	18	3
„	Galena, with a little copper pyrites in felspathic gangue.	51·27	„			0	11	1
„ (Castlerag) ...	Quartz, with carbonate of lead and galena.	22·2	Nil.			35	18	16
Rockwell Paddock (Great Eastern Mine).	Ferruginous grit	21·07	„			19	12	0
Sunny Corner District	Galena and copper pyrites in felspathic gangue.	84·26	Trace.			7	16	18
Tenterfield District	Quartz and chlorite, with galena, blende, and pyrites.	34·64	„			3	0	22
Wiseman's Creek (near Bathurst)	Gossan, with carbonate of lead	10·41	Nil.			13	12	4
Yass (9 miles from) (Woolgarloo)	Galena, with fluorspar	72·5	Trace.			7	12	10

TIN.

The tin-mining industry, which has been declining since 1882, when it had reached its highest point, showed some slight revival in 1892.

As will be seen from the following table, the value of the tin exported during last year exceeded that of 1891 by £42,702. The Vegetable Creek Tin-field near Emmaville, the principal seat of tin-mining in the Colony, produced 863 tons of stream and 200 tons of lode tin, valued at £56,339. From sluicing old ground on Vegetable Creek, Moore & Co. got 43 tons of stream tin during the year, and 25½ tons from their claim at the Water Holes in the same locality. Mr. Bensusan, of the Butters Tin Mine, crushed 400 tons of ore from 15 tons of tin; the Vegetable Creek Tin-mining Co. (Limited) are still at full work in the same locality. The prospects for this Division for 1893 are certainly brighter, a much larger share of attention being paid to lode tin-mining, which has, with one or two exceptions, up to the present been worked, and the ore treated, in a very primitive and laborious manner. The stream tin is chiefly won from shallow ground, but at Rose Valley and Kangaroo Valley the sinking is deep. At both these places prospecting operations were vigorously carried on during the year. At Wilson's Downfall the output was 227 tons of stream tin, valued at £12,258. In this Division work is only carried on at intervals, when water is plentiful. The rainfall was heavy during the year, and if steps were taken to conserve the water, so that work might be carried on without stoppage, the returns would be largely increased. From the Tingha Division 600 tons of tin were produced, giving an aggregate value of £27,000. There are numerous reefs in this Division well worth testing, which are now attracting the attention of our practical miners. The Deepwater Division gave a return of 420 tons of tin, valued at £22,200, 360 tons of this being stream tin. Promise is given that the output from this Division for 1893 will be much increased. From Glen Innes the product was 67½ tons of tin, the value given being £4,254 10s. Attention is being directed to the probability of finding rich deposits of tin ore underlying the long stretch of basaltic table-land dividing the valleys of the Beardy and the Mann, lying in the Division of Glen Innes. At one point on the eastern flank of the range one party obtained from surfacing, tin to the value of £795 10s. Gardner and party, north-west from Bendemeer, obtained tin to the value of £406. In the Kempsey District, the Gundlo Tin-field has not progressed to any great extent during the year, the principal part of the work carried on being more of a prospecting nature. The total output from the field being 14¼ tons of tin, valued at £390 12s. At Euriowie, in the Broken Hill District, the Wheal Byjerkerno Tin-mining Company won 6¼ tons of tin, valued at £311 13s. The Mount Euriowie Tin Company, on the same field, are still carrying on prospecting operations, and have fair indications. At Burra, near Tumbarumba, the gold miners, in conjunction with their operations, saved half a ton of tin, valued at £56 per ton. In the Albury District, at Dora Dora, an important find of lode tin has been made. A large area of land has been applied for, and a syndicate has been formed with capital sufficient to thoroughly test the deposits.

TABLE showing the quantity and value of Tin exported from, and the product of, the Colony of New South Wales, since the opening of the Tin-fields in 1872.

Year.	Ingots.					Ore.					Total.				
	Quantity.		Value.			Quantity.		Value.			Quantity.		Value.		
	tons	cwt.	£	s.	d.	tons	cwt.	£	s.	d.	tons	cwt.	£	s.	d.
1872	47	0	6,482	0	0	849	0	41,337	0	0	896	0	47,819	0	0
1873	911	0	107,795	0	0	3,660	0	226,641	0	0	4,571	0	334,436	0	0
1874	4,101	0	366,189	0	0	2,118	0	118,133	0	0	6,219	0	484,322	0	0
1875	6,058	0	475,168	0	0	2,022	0	86,143	0	0	8,080	0	561,311	0	0
1876	5,449	0	379,318	0	0	1,509	0	60.320	0	0	6,958	0	439,638	0	0
1877	7,230	0	477,952	0	0	824	0	30,588	0	0	8,054	0	508,540	0	0
1878	6,085	0	362.072	0	0	1,125	0	33,750	0	0	7,210	0	395,822	0	0
1879	5,107	2	343,075	0	0	813	15	29,274	0	0	5,920	17	372,349	0	0
1880	5.476	6	440,615	0	0	682	6	30,722	9	0	6,158	12	471,337	9	0
1881	7,590	17½	686,511	0	0	609	6	37,492	0	0	8,200	3½	724,003	0	0
1882	8,059	0	800,571	0	0	611	0	32,890	0	0	8,670	0	833,461	0	0
1883	8,680	1	802,867	0	0	445	4	21,685	0	0	9,125	5	824,552	0	0
1884	6,315	16	506,726	0	0	349	13	14,861	0	0	6,665	9	521,587	0	0
1885	4,657	18	390,458	0	0	534	18	25,168	0	0	5,192	16	415,626	0	0
1886	4,640	18	449,303	0	0	326	18	18,350	0	0	4,967	16	467,653	0	0
1887	4,669	8	509,009	0	0	291	13	16,411	0	0	4,961	1	525,420	0	0
1888	4,562	2	569,182	0	0	247	8	13,314	0	0	4,809	10	582,496	0	0
1889	4,408	13	403,111	0	0	241	15	12,060	0	0	4,650	8	415,171	0	0
1890	3,409	11	317,117	0	0	259	4	12,724	0	0	3,668	15	329,841	0	0
1891	2,941	5½	261,769	0	0	203	5	9,643	0	0	3,441	10½	271,412	0	0
1892	3,253	0	301,541	0	0	239	2	12,573	0	0	3,492	2	314,114	0	0
	103,652	18	8,956,831	0	0	17,962	7	884,079	9	0	121,912	5	9,840,910	9	0

During the year eighty-one assays were made for Tin in the Laboratory of the Department, the following giving the best results.

Locality.	Description of Ore.	Per cent. Metallic Tin.
Armidale (near)........	Tin oxide, with titanic iron, zircons, and magnetite (sand)	37·52
Bendemeer...........................	Oxide of tin in quartz and felspar gangue..............................	58·60
Ballina (Little River)	Concentrated sand, containing tin oxide, platinum, and gold (gold, 6 oz. 13 dwt. 22 gr. per ton; platinum, 2 oz. 19 dwt. 16 gr. per ton).	17·24
,, ,, ...	Concentrated sand, containing tin oxide	21·28
,, ...	Beach sand	7·20
,, ...	,, (platinum, 13 dwt. 6 gr. per ton)......................	22·2
Cowra District	Stream tin ore...	59·92
Cooma ,, ...	Quartz, with tin oxide	3·30
,, ,, ...	Blue quartz, with tin oxide	20·20
Candello..............................	Concentrated stream tin ore	72·95
Glen Innes District	Tin-bearing granite	18·1
,, ,, nr. (Glen Elgin)	Concentrated stream tin ore, with free gold, some of the gold coated with mercury.	73·34
Galley Swamp (Bald Hills)......	Stream tin, with quartz sand	46·84
Gundle Tin-mine (nr. Kempsey)	Felspar, with tin oxide, and one piece of quartz with ditto ...	20·0
,, ,, ...	Concentrated tin oxide......	65·5
Mann River (near Glen Innes)..	,, stream tin ore	71·85
,, ,, ...	,, tin oxide	71·14
Mount Violet (Cooma District)	Ferruginous quartz, with tin oxide	19·40
Molong (14 miles west of)	Blue and green carbonates of copper and cassiterite in felspathic material.	15·25
Richmond River	Beach sand, concentrated from 100 lb. to 2½ lb. (platinum, 21 oz. 17 dwt. 16 gr. per ton; gold, 13 oz. 7 dwt. 20 gr.).	19·28
,, ...	Beach sand (platinum, 2 oz. 8 dwt. 6 gr.)	20·02
,, ...	,, (platinum, few grains)..	2·5
,, ...	Concentrated platinum-bearing sand (platinum, 501 oz. 2 dwt. per ton).	51·03
,, Heads (north of)	Tin-bearing beach sand (platinum, 4 oz. 7 dwt. 4 gr.; gold, 4 oz. 12 dwt. 10 gr.; iridium, 17 dwt. 9 gr.; osmiridium, 1 oz. 9 dwt. 6 gr.).	30·3

COPPER.

The value of the copper produced during the year was £187,706, or £17,387 less than in 1891. At Nymagee the Nymagee Copper-mining Company raised 6,238 tons, which yielded 697 tons of copper, valued at £31,360. The Great Cobar Company's Mine is still shut down. The New Mount Hope Copper Company, near Hillston, raised and sold as ore during the year 1,159 tons, valued at £2,805, and smelted 190 tons, valued at £6,283. The Burraga Copper-mine raised 800 tons of ore during the year, but it was not all smelted; but from the ore put through 80 tons of smelted copper were obtained, valued at £3,600. At Blayney the Annandale Copper Company's output was

10 tons of smelted copper, valued at £435 12s. At Woodstock the Nobby's Copper-mining Company sold 150 tons of ore for £620. The output from the Burley Jacky Mine, near Cowra, was about 120 tons of copper. At Mitchell the Sunny Corner Silver-mining Company obtained 77 tons of smelted copper, valued at £3,388; and at Lewis' Ponds the Spicer Syndicate obtained copper to the value of £165. At Captain's Flat the Lake George Copper-mining Company obtained 671 tons of smelted copper, valued at £40 per ton. In connection with the silver-mining operations at Broken Hill 223 tons of copper were obtained, valued at £9,240.

TABLE showing the quantity and value of Copper, the produce of the Colony, exported from the Colony of New South Wales, from 1858 to 1892.

Year.	Ingots.		Ore and Regulus.		Total.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Tons cwt.	£	Tons cwt.	£	Tons cwt.	£
1858	... .	....	58 0	1,400	58 0	1,400
1859	30 0	578	....	....	30 0	578
1860	....	....	43 0	1,535	43 0	1,535
1861	....	....	144 0	3,390	144 0	3,390
1862	....	....	213 0	5,742	213 0	5,742
1863	23 0	1,680	114 0	420	137 0	2,100
1864	54 0	5,230	....	....	54 0	5,230
1865	247 0	15,820	22 0	545	269 0	16,365
1866	255 0	18,905	23 0	1,885	278 0	20,790
1867	393 0	30,189	0 2	5	393 0	30,194
1868	644 0	23,297	172 0	4,000	816 0	27,297
1869	1,980 0	74,605	104 0	2,070	2,084 0	76,675
1870	994 0	65,671	6 0	60	1,000 0	65,731
1871	1,350 0	87,579	94 0	1,297	1,444 0	88,876
1872	1,035 0	92,736	417 0	13,152	1,452 0	105,888
1873	2,795 0	237,412	51 0	1,690	2,846 0	239,102
1874	3,638 0	311,519	522 0	13,621	4,160 0	325,140
1875	3,520 0	297,334	157 0	4,356	3,677 0	301,690
1876	3,106 0	243,142	169 0	6,836	3,275 0	249,978
1877	4,153 0	307,181	360 0	17,045	4,513 0	324,226
1878	4,983 0	337,409	236 0	7,749	5,219 0	345,158
1879	4,106 15	256,437	36 7	915	4,143 2	257,352
1880	5,262 10	359,260	131 18½	4,799	5,394 8½	364,059
1881	5,361 0	350,087	132 16	4,975	5,493 16	355,062
1882	4,865 3	321,887	93 1	2,840	4,958 4	324,727
1883	8,872 17	574,497	84 10	2,704	8,957 7	577,201
1884	7,286 6	415,601	18 18	578	7,305 4	416,179
1885	5,745 5	264,905	0 15	15	5,746 0	264,920
1886	3,968 18	166,429	57 18	1,236	4,026 8	167,665
1887	4,463 19	195,752	299 8	3,350	4.763 7	199,102
1888	3,786 1	272,110	113 6	2,924	3,899 7	275,034
1889	3,983 16	203,319	198 4	3,322	4,182 0	206,641
1890	3,165 9	163,537	580 9	9,774	3,755 18	173,311
1891	3,860 3	191,878	665 8	13,215	4,525 11	205,093
1892	3,535 0	160,473	1,299 4	27,233	4,834 4	187,706
	97,463 2	6,046,459	6,617 4½	164,678	104,089 16½	6,211,137

The export of copper ore and regulus in 1892 is the largest yet, being nearly twice as large as in 1891.

During the year seventy-four assays were made for Copper in the Laboratory of this Department, the following yielding over 10 per cent.:—

Locality.	Description of Ore.	Per cent. Metallic Copper.	Per ton.	
			Gold.	Silver.
			oz. dwt. gr.	oz. dwt. gr.
Abercrombie	Ferruginous quartz with blue and green carbonates of copper and a little bornite.	17·85	Trace.	11 8 16
Bingera	Rotten serpentine with stains of copper carbonate.	28· 5	Nil.	1 14 20
Bathurst District	Quartz with green carbonate of copper	15·75	Trace.	1 1 18
Bungendore	Copper pyrites with a little quartz	13·75	,,	11 2 16
,, 9 miles from	,, with zinc blende	13·20	Nil.	11 21 6
Bungonia (Spring Creek)	Copper and iron pyrites, galena, and blende	13· 3	....	20 2 21
,, ,,	,, ,, with a little galena	23· 7	Trace.	4 7 2
,, ,,	Sulphides of copper and zinc	13· 5	Nil.	8 3 7
Buckley's Crossing	Quartz with blue and green carbonates of copper.	15· 7	Trace.	Trace.
Cooma District	Ferruginous quartz with yellow sulphide and stains of copper carbonate.	11·85	,,	1 1 18
Carcoar (near)	Bornite, chalcopyrite, malachite, and quartz	23· 3	,,	1 12 16
Cowra (Walli)	Felspathic rock with grey sulphide and blue carbonate of copper.	33·07	Nil.	2 6 19
Deepwater (near)	Copper pyrites with quartz and clay gangue	31·92	,,	148 12 15
,, ,, ...	Chlorite with copper pyrites..................	16·95	Trace.	122 18 16
Drake	Quartz and felspar lodestuff with grey and yellow sulphides and carbonate of copper.	30· 7	0 3 6	3 18 9
,, ...	,, ,, ,,	38·85	1 14 20	2 15 12
Emmaville	Galena and black copper oxide..................	22·26	....	... .
Gundagai	Bornite with blende and galena in quartz gangue.	12·92	Nil.	7 12 10
,, ...	Serpentinous rock with carbonate and silicate of copper.	36·65	Trace.	0 10 21
Inverell	Felspathic material, with green copper carbonate.	16·85	Nil.	37 0 10
Kiandra (12 miles from)	Massive copper pyrites, with a little quartz..	28·65	,,	Nil.
Larry's Flat (near)	Quartz, with sulphides and carbonate of copper	37·0	,,	47 7 7
Mount Costigan, Tuena...	Green carbonate and sulphides of copper in clay.	44·95	Trace.	0 10 21
,, ,, ...	Green and blue carbonates, with sulphide of copper.	21·32	,,	13 1 8
,, ,, ...	Crushed grey sulphide and blue and green carbonate of copper, with quartz.	17·05	,,	22 10 15
,, ,, ...	Ferruginous gossan and quartz, with copper carbonate.	15 5	,,	15 8 2
,, ,, ...	Blue, with a little green carbonate of copper, with slate and quartz.	31·0	,,	14 9 14
Molong (14 miles west of)	Blue and green carbonates of copper in felspathic material.	17·10	,,	2 14 10
Mulga Creek	Ferruginous blue and green carbonates of copper.	15·75	,,	Trace.
Nobbies Hill	Ferruginous siliceous copper carbonate	27·55	Trace.	7 16 18
Sugar Loaf..................	Micaceous slate and gossan, stained with copper carbonate.	16·45	,,	1 12 16
Trunkey	Quartz, with copper pyrites and a trace of green carbonate.	10·58	Nil.	3 16 5
,, ...	Quartz and felspathic material, with blue and green copper carbonate.	18·80	Trace.	3 5 8

Locality.	Description of Ore.	Per cent. Metallic Copper.	Per ton.	
			Gold.	Silver.
			oz. dwt. gr.	oz. dwt. gr.
Trunkey	Green carbonate and a little red oxide of copper.	14·10	Trace.	4 7 2
,,	Ferruginous copper pyrites, with blue and green carbonates of copper and quartz.	24·0	0 2 4	2 1 9
Tuena (near)	Ferruginous gossan, with blue and green carbonates of copper.	22·95	36 13 21	Trace.
Tuglow River	Red oxide and green copper carbonate veins in clay.	28·35	Trace.	1 12 16
,,	Grey and yellow sulphides, with green copper carbonate in quartz.	20· 5	,,	0 15 2
Wattle Flat	Ferruginous felspathic material, with stains of copper carbonate.	13·25	Nil.	2 3 13
Whipstick	Felspar veinstone, with chloride of silver and bismuth oxide.	14·52	Trace.	3336 0 13
Wellington	Grey sulphide, with a few stains of copper carbonate, in quartz gangue.	52·56	,,	0 10 21
Wangoola Station	Grey sulphide, with a little green carbonate of copper.	50·55	2 14 10	6 10 16
Woodstock (4 miles south of)	Average sample of copper ore, chiefly carbonate	11·00	Trace.	4 7 2
,, ,,	Brown iron ore, with stains of copper carbonate	20·10	Nil.	13 12 4

IRON.

Notwithstanding the natural advantages which, according to some experts, this Colony possesses, iron-making has not yet been established in this Colony. At the Eskbank Ironworks 2,782 tons 3 cwt. 1 qr. 15 lb. of iron, valued at £22,605 2s. 6d., was manufactured from scrap.

During the year the following assays and analyses were made for iron in the Laboratory of this Department:—

Locality.	Description of Ore.	Assay or Analysis.		Iron %.
Appin	Ferruginous sandstone	Ferric oxide	19·08 %	
	,,	,,	21·04 ,,	
	,,	,,	35·38 ,,	
	,,	,,	59·53 ,,	
Bulli Pass	Brown iron ore			49·85
Bundanoon	Earthy-red ochre	Ferric oxide	43·19 %	
,,	Yellow ochre	,,	48·68 ,,	
Broken Hill	Carbonates of iron and lime	Gangue	0·52 ,,	
		Carbonate of lime	1·15 ,,	
Cudgegong	Brown and yellow ochre	Ferric oxide	63·43 ,,	
Croydon, near	Clay band iron ore (carbonate).			27·93
Cullen Bullen	Oxide of iron			56·19
Dubbo	Reddish yellow ochre	Ferric oxide	17·00 %	
,,	Bright yellow ochre	,,	17·61 ,,	
Gulgong	Ochre	,,	11·68 ,,	
Grafton District	Hematite iron ore	Silica	24·98 ,,	50·29
Hunter River (Aberdeen)	Magnetite			49·86
Havilah	Cavernous limonite			56·31
Illawarra	Ironstone concretion			35·88

Locality.	Description of Ore.	Assay or Analysis.		Iron %.
Kerr's Creek	Yellow ochre	Insoluble in acids	84·05 %	
		Silica	67·25 ,,	
		Ferric oxide	4·74 ,,	
		Ferrous oxide	0·20 ,,	
		Coarse sand	6·52 ,,	
Mount Pleasant	Brown iron ore	...		51·65
,,	Clay ironstone			32·60
,,	Sandy shale, with thin fibres of iron oxide in joint cracks.			21·25
Murrurundi (25 miles east of)	Red hematite iron ore	Silica	2·30 %	64·56
,, (30 miles north-west of).	Magnetite sandstone	Gangue	18·22 ,,	46·29
Mount Hope	Siliceous limonite with a little green carbonate of copper, and several pieces of felspathic magnetite.	Silica	14·54 ,,	45·06
,, (J. Reilly's Lease)	Felspathic magnetite	Moisture at 100° C	·88 ,,	44·51
		Combined water	3·67 ,,	
		Ferric oxide	63·27 ,,	
		Manganous oxide	·49 ,,	
		Ferrous oxide	·28 ,,	
		Alumina oxide	7·76 ,,	
		Silica	20·45 ,,	
		Lime	Nil.	
		Magnesia	·18 ,,	
		Oxide of bismuth	1·72 ,,	
		Sulphuric acid ($S\,O_3$) ...	·28 ,,	
		Phosphoric acid ($P_2\,O_5$)...	·56 ,,	
		Carbonic acid ($C\,O_2$)	·07 ,,	
		Titanic acid ($Ti\,O_2$)	Nil.	
			99·61 %	
Mount Hope	Ironstone used as flux	Moisture at 100° C	·98 %	
		Combined water	4·36 ,,	
		Ferric oxide	64·14 ,,	
		Ferrous oxide	·21 ,,	
		Manganous oxide	·64 ,,	
		Alumina	6·93 ,,	
		Silica	18·50 ,,	
		Lime	Trace.	
		Magnesia	·12 ,,	
		Oxide of bismuth	1·41 ,,	
		,, copper	·60 ,,	
		Sulphuric anhydride	·41 ,,	
		Phosphoric ,,	1·17 ,,	
		Carbonic ,,	·17 ,,	
			99·64 %	
Mount Edgecombe	Brown iron ore			54·32
Mittagong District	Earthy limonite			43·97
Molong & Parkes (between)	Red ochre	Ferric oxide	8·57 %	
,, (6 miles south of)...	,,	Insoluble in acids	65·66 ,,	
		Silica	44·20 ,,	
		Ferric oxide	17·98 ,,	
		Ferrous oxide	Nil.	
		Coarse sand	9·75 ,,	

Locality.	Description of Ore.	Assay or Analysis.		Iron %.
Molong (6 miles south of) ...	Purple and white marbled clay.	Insoluble in acids	76·93 %	
		Silica	54·60 ,,	
		Ferric oxide	16·05 ,,	
		Ferrous oxide	Nil.	
		Coarse sand	33·55 ,,	
Mullion, Parish of, County of Wellingon.	Red, with bands of yellow ochre.	Insoluble in acids	66·52 ,,	
		Silica	41·56 ,,	
		Ferric oxide	13·21 ,,	
		Ferrous oxide	Nil.	
		Coarse sand	16·50 ,,	
Nowra, Parish of, (near Jerringong).	Limonite	....		53·97
Newbridge	Magnetic iron ore	Gangue	4·11 %	62·00
		Silica	4·00 ,,	
,, (4½ miles from)	Brown iron ore	Gangue	11·90 ,,	49·75
		Silica	10·65 ,,	
Picton District	Concretionary iron ore	....		40·62
,, (The Hermitage).	Brown iron ore	Moisture at 100° C	2·05 %	
		Combined water	10·33 ,,	
		Ferric oxide	70·57 ,,	
		Ferrous oxide	Nil.	
		Manganous oxide	·33 ,,	
		Alumina	6·53 ,,	
		Silica	9·41 ,,	
		Lime	·32 ,,	
		Magnesia	·08 ,,	
		Phosphoric anhydride	·35 ,,	
		Sulphuric ,,	Nil.	
		Titanic acid	,,	
			99·97 %	
Shoalhaven District	Brown iron ore	....		53·30
Trunkey (2 miles from) ...	Brown iron ore	Moisture at 100° C.	·70 %	
		Combined water	11·04 ,,	
		Ferric oxide	81·48 ,,	
		Ferrous oxide	·36 ,,	
		Manganous oxide	Trace.	
		Lime	Nil.	
		Magnesia	·13 ,,	
		Silica	3·55 ,,	
		Alumina	1·64 ,,	
		Titanic acid	Nil.	
		Sulphuric acid	·02 ,,	
		Phosphoric	·82 ,,	
			99·74 %	
Tuena District (Mount Costigan).	Crushed sample	Silica	28 74 %	23·58
Tuena District (Mount Costigan).	,,	,,	2·50 ,,	23·78
Woolgoolga	Magnetic iron ore (portion of which is siliceous).	Gangue	22·85 ,,	49·42
		Silica	22·46 ,,	
		Gold a trace ; silver a trace.		
Woonoona (near)	Concretionary ironstone ...	....		44·86
Waleha	Ferro-manganese oxide ...	Manganese	27·36 %	22·03
Windellama	Brown iron ore	....		55·86
Young District	Magnetite	Gangue	2 33 %	66·34
		Silica	2·06 ,,	

Antimony.

During the past year 1,600 tons of antimony were produced in the Armidale District, being a slight increase over the yield of the previous year. At Hillgrove the output was 1,135 tons, valued at £25,658. From the antimony field at Taylor's Arm, on the Nambucca River, Kempsey District, 280 tons of crude ore were produced, valued at £3,920, giving an average of about £14 per ton. There is a probability that the Corangula Antimony Mines will be re-opened at an early date. Near Grafton, Mr. T. H. Smith is still working his antimony mine, and, during the year, raised 24 tons of ore, valued at £288.

During the year twenty assays were made for antimony in the Laboratory of this Department, the following giving the best results:—

Locality.	Description of Ore.	Per cent. Metallic Antimony.	Per ton.	
			Gold.	Silver.
			oz. dwt. gr.	oz. dwt. gr.
Ashford	Stibnite and cervantite in quartz.	51·07	Trace.	1 1 18
Boggabri	Stibnite with quartz	56·6	Nil.	Trace.
Bundarra (10 miles east of)	Oxide of antimony in quartz	39·15	,,	4 15 19
Bingara	Stibnite	68·85	Trace.	Trace.
Capertee (23 miles from)	Quartz, with sulphide and a little oxide of antimony.	42·85	4 13 14	0 6 12
Clarence River	Stibnite in quartz	53·60	Trace.	Trace.
Nambucca River (Taylor's Arm)	,, with quartz	25·02	Nil.	Nil.
,, ,,	,,	67·48	,,	,,
,, ,,	Quartz, with stibnite	59·85	,,	,,
,, ,,	Stibnite and native antimony	80·98	,,	,,
,, ,,	Quartz, with stibnite	37·46	,,	,,
,,	Stibnite	58·07	,,	,,
,,	Finely crushed concentrated stibnite.	64·23	Trace.	Trace.
,, (Bull Creek)	Stibnite	55·22	....	....
,, ,,	,,	69·53	Trace.	Trace.
Nundle, near (Peel River)	,, with quartz	45·75	Nil.	Nil.
,,	Two small pieces of stibnite, with a little quartz.	57·96	0 6 12	0 15 2
,,	Stibnite and cervantite	52·97	Nil.	Nil.
,,	,, and quartz	36·03	Trace.	Trace.
,,	,, ,,	50·07	,,	,,
Nuntherungie	Quartz, with stibnite and cervantite.	25·15	Nil.	Nil.
Walcha (near)	Stibnite	53·18	,,	,,

Bismuth.

The Great Jingera Silver-mining Company, near Pambula, sent away to Europe 40 tons of argentiferous bismuth ore for treatment, but complete returns are not yet to hand. The 40 tons were sent away in four consignments; and if the value of the 40 tons were based on the return from the first shipment, it would amount to £2,343. However, the market for bismuth is so erratic that it is difficult to give anything but an approximate value.

During the year twenty-five assays were made for bismuth in the Laboratory of the Department, the following giving the best results :—

Locality.	Description of Ore.	Per cent. Metallic Bismuth.	Per ton.	
			Gold.	Silver.
			oz. dwt. gr.	oz. dwt. gr.
Glen Innes District	Granitic gravel, with molybdenite, and sulphide and oxide of bismuth.	3·09	Trace.	8 9 19
,, ,, ...	Kaolin, with quartz fragments......	14·20	Nil.	Nil.
,, ,, ...	Quartz fragments, with carbonate of bismuth.	11·56	1 3 22	4 4 22
,, ,, ...	Kaolin, with quartz fragments......	4·75	1 1 18	0 10 22
Whipstick, near Wyndham	Quartz, with sulphide of bismuth...	13·75	1 19 4	1 1 18
,, ,, ...	Felspar veinstone, stained yellow by bismuth ochre.	4·37	Trace.	5 8 21
,, ,, ...	Granitic veinstone, containing carbonate and sulphide of bismuth.	23·34	0 11 23	1,108 1 1

Zinc.

The following assays were made for zinc in the Laboratory of the Department:—

Locality.	Description of Ore.	Per cent. Metallic Zinc.	Per ton.	
			Gold.	Silver.
			oz. dwt. gr.	oz. dwt. gr.
Bungonia, near (Spring Creek).	Crushed sample	48·85	Trace.	3 16 5
Mount Costigan	Sulphides of zinc, lead, copper and iron	22·04	Nil.	26 2 15
,, ...	,, ,, ,,	12·12	,,	20 2 21
,, ...	,, ,, ,,	12·51	Trace.	24 12 3
,, ...	Crushed sample	31·66	0 2 10	10 11 12
,, ...	,, ,, ...	19·32	0 2 10	14 8 7
,, ...	,, ,, ...	12·66	0 2 10	15 16 1
,, ...	,, ,, ...	7·90	0 1 15	36 10 2

Platinum.

On the beach, to the north of Evans Head, in the Clarence and Richmond Mining District, several leases have been applied for during the year to mine for this metal. Very little labour has yet been expended upon them, with one exception, when some of the sand was concentrated and forwarded to England and Germany for further treatment. The platinum found in this deposit is extremely fine, and it is questionable if, with the present appliances, it can be worked to a profit. Traces of the metal are found in the sand by the gold-miners all along the coast at Ballina, small quantities of which they contrive to save. About 10 or 12 miles from Broken Hill a discovery of platinum was made during the year, from which good results were expected. The tests so far made, however, prove that the small percentage of metal present, and the cost of extraction, would barely leave a margin of profit. This metal has also been found in the Murrumbidgee District, in the valley on the Lachlan Falls, about 60 miles west from Parkes, but not yet in payable quantities. Two samples from this locality were found to consist of sand containing quartz, black titanic, and magnetic iron, angular particles of shotty gold, rounded grains of platinum, with a few little red and white zircons.

During the year sixty-four assays were made for platinum, the following giving the most favourable results:—

Locality.	Description of Ore.	Per ton Platinum.	Per ton Gold.	Per cent. Tin.
		oz. dwt. gr.	oz. dwt. gr.	
Broken Hill	Ferruginous felspathic rock ...	1 2 18	....	
Byron Bay (Broken Head).	Beach sand	3 4 0	2 4 22	3·60
Ballina	,, (½ lb. concentrated from 17lb.)	0 14 7	0 12 7	2·1
Cuon, Richmond River	Ilmenite quartz and zircon sand	Trace, under 1 dwt.	1 12 16 Silver, 16 dwt. 6 gr.	
Clarence River Heads	Beach sand	,, ,, 1 ,,	1 12 16 Silver, 19 dwt. 12 gr.	
,, ,, ...	,, ...	,, ,, 1 ,,	0 16 6 Silver, 3 dwt. 6 gr.	
,, (Little River)	,, ...	19 18 12	Trace.	Trace.
Crescent Head (Richmond River).	,, ...	Trace, under 1 dwt.	1 12 16 Silver, 6 dwt. 12 gr.	
Manning River.........	,, (concentrated)	3 18 8 Iridosmine, 6 dwt. 12 gr.	1 14 16	38·44
Mulga Creek, Broken Hill.	Brown iron ore, with copper carbonate.	0 4 6	Trace. Silver, 10 dwt. 21 gr	
,, ,, ...	Silicious rock, granular and felspathic in parts.	Platinum metals, 7 dwt. per ton.	4 0 0	
,, ,, ...	Ferruginous gossan	Trace, under 1 dwt.	Nil; silver, 9 dwt.	
,, ,, ...	,, indurated clay......	,, ,, 1 ,,	Trace.	
,, ,, ...	Yellow felspathic rock, with quartz.	,, ,, 1 ,,	Trace; silver, 6 dwt. 12 gr.	
Richmond Heads (north of).	Tin, gold, and platinum bearing beach sand.	4 oz. 7 dwt. 4 gr. Iridium, 17 dwt. 1 gr. Osmiridium, 1 oz. 9 dwt. 6 gr.	4 oz. 12 dwt. 10 gr.	30·3
Richmond River	Concentrated beach sand, showing gold, platinum, and tin oxide.	0 8 17	2 15 6 Silver, 1 oz. 9 dwt. 6 gr.	
,, ,, ...	Beach sand (100 lb. reduced to 12 lb.)	0 0 15½	0 14 9	
,, ,, ...	Beach sand (100 lb. reduced to 18 lb.)	0 0 10½	0 8 4	
,, ,, ...	Beach sand (100 lb. reduced to 2½ lb.)	21 17 16	13 7 20	
,, ,, ...	Beach sand	2 8 6	0 10 5	20·02
,, ,, ...	Platinum bearing sand cement..	3·58 % of platinum.	....	
,, ,, ...	Platinum bearing sand cement (concentrated).	1,166 13 10	81 9 20	
,, ,, ...	Platinum bearing sand cement (concentrated).	5,011 2 0	....	

PIGMENT.

A deposit of this mineral is to be found near Kerr's Creek, situated in the Orange Division of the Bathurst Mining District. The Gordon Emery and Colour Company (Limited) have taken up a lease of 80 acres, and are now carrying on operations. A fair quantity of the raw material, consisting of purple oxide and yellow ochre, has been produced, which will be forwarded to the Company's works at Forest Lodge, near Sydney, now in course of completion. A trial shipment of about 100 tons of the pigment has been sent to England, but the value of the raw material in that market is not yet known. About 4 miles to the east of Dubbo, and also 17 miles in the same direction, several 40-acre blocks have been taken up to search for paints and pigments, and machinery is expected to be placed on the ground at an early date. A large deposit of this mineral also exists near Mudgee, which was worked for some time more or less successfully.

CHROMIUM.

During the year thirty-six assays were made for chrome in the Laboratory of this Department, the following giving the best results:—

Locality.	Description of Ore.	Chrome per cent.
Bowling Alley Point (Near Nundle)......	Chromite	47·04
Barraba, near, (Ironbark Creek)	,, ...	46·45
Buccleugh (County of, Parish of Cobarrolong).	,, (crushed)	47·24
,, ,, ...	,, ,, ...	47·68
,, ,, ...	,, ,, ...	47·68
Clarence River (47 miles E. Ulgilbar)...	,, ...	50·46
,, ,, ...	,, ...	38·74
,, ,, ...	,, ...	34·51
Gundagai	,, ...	43·80
,, (near Coolac, Permit 201)......	,, ...	47·68
,, ,, ...	,, ...	48·00
,, ,, ...	,, ...	45·09
,, ,, ...	,, ...	52·10
,, ,, ...	,, ...	50·79
,, ,, ...	,, ...	31·85
,, (Mount Lightning)	,, ...	49·08
,, (18 miles E.)	Chrome iron	37·74
,, ,, ...	,, ,, ...	39·64
,, ,, ...	,, ,, ...	37·30
Grafton (40 miles from)	Chromite	39·07
,, (25 miles from)	,, with a little chrome ochre	38·32
Molong (15 miles W.).................	,, with chlorite	24·08
Nundle	,, ...	37·42
,, (Hanging Rock)	,, ...	40·66
,, (near)	,, ...	43·50
,, ...	,, ...	41·56
,, (4 miles from)	,, ...	42·62
Tamworth District	,, ...	52·46
,, ...	,, ...	44·78
Young District	,, ...	37·22
,, ...	,, ...	46·57
,, ...	,, ...	42·85
,, ...	,, ...	42·13
Young and Grenfell (between)	,, ...	43·12

MERCURY.

Prospecting operations for cinnabar are being carried on in the neighbourhood of Rylstone and Cudgegong, with fair prospects of success. At Bingera a company has been formed to test a deposit said to contain cinnabar in payable quantities, and some prospecting work has already been done.

MANGANESE.

On the manganese lease at Back Creek, near Rockley, Carnston and party have raised 50 tons of this ore during the year, valued at about £150. There is abundance of this mineral in the locality, but the lowness of its market value prevents it being worked at a profit.

During the year the following assays for manganese, cobalt, and nickel were made in the Laboratory of this Department:—

Locality.	Description of Ore.	Per cent. Binoxide of Manganese.	Per cent. Metallic Manganese.
Alicktown (near)	Pyrolusite	....	43·35
Armidale District	Manganese oxide	39·95	25·25
Bathurst (10 miles from)	Siliceous manganese oxide, with rhodonite	42·90	27·12
Boro	Conglomerate, cemented by a little oxide of manganese.	Cobalt. ·99 %	Nickel. ·20 %
Cudgegong	Pyrolusite, with clay	....	47·22
Gundagai (7 miles E.)	Oxide of manganese	79·56	50·29
Havilah	Manganese oxide, with a little clay and oxide of iron.	77·94	49·27
,,	Manganese oxide, with a little yellow ochre	48·28	30·52
Mudgee (6 miles E.)	Clay, with manganese oxide	37·60	23·77
,, ,,	Pyrolusite, with limonite	51·70	32·68
,, District	,,	80·12	50·65
,, (7 miles N.E.)	Manganese oxide, with a little clay	57·06	36·07
Newbridge	,,	80·25	50·73
Rockley	Manganese oxide, with silicate of manganese, quartz, and clay.	....	40·42
,,	Manganese oxide	83·99	53·09
Woodstock (1½ mile north of)	,,	74·40	47·03
,,	Ferruginous manganese oxide	72·90	46·08
Wallerawang (5 miles from)	Manganese oxide	....	42·21
Walcha (2½ miles N.)	,,	....	14·85
,,	Ferro-manganese oxide	Iron. 22·03	27·36

WOLFRAM.

At Berridale, Margoschis and party are receiving aid from the Prospecting Vote to test a wolfram lode, which they expect to cut at a depth of 100 feet.

TUNGSTEN.

During the year twenty-two assays were made in the Laboratory of this Department, the following giving the best results:—

Locality.	Description of Ore.	Tungstic Acid, per cent. (WO_3)
Clive (County of, Parish of Beugha)	Wolfram in siliceous gangue, stained green by iron arseniate.	42·55
Deepwater (near)	,, in quartz	47·02
,, (Nine-mile)	,, ,,	51·23
Emmaville	,, rubble, with quartz and mispickel	64·06
,,	,,	68·03
Frogmore (2 miles from)	,,	51·67
,,	,, with quartz	62·67
Gundagai	,, in granite	61·44
Hillgrove	Scheelite	71·80
,,	,,	50·74
,,	Quartz, with scheelite	38·25
Mount Soltan (New England)	Wolfram, a little quartz present	71·22
Mount Hope (30 miles from)	,,	72·2
,, ,,	,,	68·8

ALUM.

During the year 1892, the Australian Alum Company, Bulladelah, have raised 1,600 tons of alunite, valued at £3,200.

DIAMONDS.

In the Bingera District the yield of diamonds is on the increase. From the Monte Christo Mine, twenty loads of wash-dirt yielded 2,250 diamonds, and from a test of 40 lb. of wash-dirt thirty-five stones were obtained, weighing 7¼ carats. The largest stones obtained in this district range from two to three carats, but the majority run five or six to a carat. Prospecting operations for diamondiferous wash is still being prosecuted with vigour in the Inverell and Berrima Districts.

EMERALDS.

About 25,000 carats, value unknown, were obtained from the Emerald Proprietary Company's Mine, situated at the Glen, near Emmaville. The hardness of the matrix in which the emeralds are found is still a source of difficulty, as it is almost impossible to break down the rock without injuring and frequently destroying the emeralds.

OPAL.

Work at the White Cliffs Opal Mines, in the Wilcannia District, is still being carried on. One leaseholder raised during 1892 about 500 oz. of noble opal, valued at over £2,000. Some of the opal from this field has realised as much as £18 per oz.

LIMESTONE.

In the Hunter and Macleay Mining District, the Patent Asphaltum Company have forwarded from their quarries, on the Myall Lake, near Bungwall, in the Bulladelah Division, 1,270 tons of limestone to their works in Sydney. This Company have started the manufacture of hydraulic lime.

Limestone Flux.

Large quantities of limestone flux are still being supplied to the silver mines at Broken Hill from the Tarrawingee flux quarries. The quantity supplied last year was 103,368 tons, valued at £93,031, as compared with 74,057 tons, valued at £65,357, during 1891. This is now a very important industry in the Barrier District.

During the year the following analyses were made of limestone in the Laboratory of this Department:—

Locality.	Description of Ore.	Analysis.		Iron %
Mount Pleasant Colliery	Limestone	Moisture	·85 %	......
		Lime (Ca O)	34·61 „	
		Magnesia (Mg O)	1·01 „	
		Ferrous oxide (Fe O)	1·36 „	
		Alumina (Al_2O_3)	13·29 „	
		Silica (Si O_2)	18·74 „	
		Potash (K_2O)	2·29 „	
		Soda (Na_2O)	·19 „	
		Phosphoric acid (P_2O_5)...	·15 „	
		Sulphuric Acid (S O_3) ...	trace.	
		Organic matter	„	
		Carbonic acid (C O_2)	27·75 %	
			100·24 %	
Pinnacles District	Rubbly limestone	Moisture at 100° C..........	·51 %	......
		Combined water	·77 „	
		Carbonate of lime (Ca C O_3).	67·74 „	
		Carbonate of magnesia (Mg C O_3).	24·91 „	
		Magnesia (Mg O)	·24 „	
		Silica (Si O_2)	3·47 „	
		Alumina (Al_2O_3)	·99 „	
		Ferric oxide (Fe_2O_3)......	·97 „	
		Ferrous „ (Fe O)	nil.	
		Manganese oxide (Mn O)	trace.	
		Phosphoric anhydride (P_2O_5).	·26 %	
		Sulphuric anhydride (SO_3).	trace.	
			99·86 %	

Water Analysis.

During the year twenty-three analyses of water were made, 18 of which are given.

Locality—Barragan, near Mudgee.

Total solid residue dried at 220° F. equals 47·260 grains per gallon.

Free ammonia	·010 parts per 100,000.
Albuminoid ammonia	·024 „ „
Nitrogen as nitrates...........................	strong reaction „
„ as nitrites	trace parts per „
Oxygen absorbed in 15 minutes.............	·090 „ „
„ „ 4 hours................	·207 „ „

Colour in 2-foot tube, pale green; odour, nil; taste, nil; reaction to litmus paper, slightly alkaline; poisonous metals, none detected; chlorine as chlorides, 8·900 grains per gallon.

A qualitative analysis of the total solid residue proved it to consist mainly of soda, potash, and lime, with lesser quantities of silica, alumina, and magnesia, combined with carbonic acid, chlorine, sulphuric and nitric acids. On comparing this analysis with the one previously furnished of the water on the 26th August, 1891, it will be observed as regards impurities, the water has not improved in quality. It is still thought that it is not a suitable water in its present state for human consumption.

Locality—Bourke, Barringun Bore.

Total solid matter dried at 220° F., 37·688 grains per gallon.
Analysis of solid matter—

	Grains per gallon.	In 1,000 parts.
Silica	1·736	0·0248
Alumina and trace (minute) of iron oxide	·252	·0036
Carbonate of lime	·350	·0050
,, magnesia	......	......
,, potash	6·104	·0872
Chloride of sodium	6·739	·0962
Carbonate of soda	23·932	·3418
Organic matter	trace.	trace.
Nitrates	,,	,,
Phosphates	,,	,,
Total solids	39·113	·5586

Remarks:—No poisonous metals detected. The water gave a slight acid reaction, due to carbonic acid, and on warming for a short time, a strong alkaline reaction, due to the alkaline carbonates present. The composition of this water is very similar to several samples received from Bourke, Youngarrina, and Native Dog Bores, analyses of which were furnished during last year. It is thought that this water, if used with care, is a suitable one for irrigation, and a good description of water for all domestic uses.

Locality—Bourke, Fort Bourke Station, Bourke.

Total solids, 72·80 grains per gallon.

A qualitative analysis showed that the total solids consist of sodium chloride, with traces of a potassium salt. A very small quantity of the sodium or potassium is present as a carbonate.

Locality—Bourke, No. 1 Bore, Corrella.

Analysis of total solids:—

	Grains per gallon.	Per 1,000 parts.
Silica and silicates	1·288	·0184
Carbonate of lime ($CaCO_3$)	1·000	·0142
,, magnesia ($MgCO_3$)	·336	·0047
Alumina (Al_2O_3)	trace.	trace.
Carbonate of soda (Na_2CO_3)	27·813	·3973
,, potash (K_2CO_3)	7·170	·1024
Chloride of sodium ($NaCl$)	8·733	·1146
Organic matter	trace.	trace.
	46·340	·6516

Free ammonia, nil per 100,000 parts. Albuminoid ammonia, nil per 100,000 parts.

This water is similar in composition to two other samples taken from near Bourke.

The total solids are mainly carbonates of sodium and potassium, these salts being known when present in quantity to exert a corrosive action on the roots of plants. The amount present however is small, and it is thought that the water is suitable for irrigation purposes. An excellent water for domestic use.

Locality—Bourke, Corrella Station.

Total solid matter (dried at 220° F., 49·154 grains per gallon):—
Chlorine, 5·6 grains per gallon; sulphuric acid (SO_3), nil per gallon.

The total solid matter consists mainly of carbonates of soda and potash, and chloride of sodium, with lesser quantities of carbonates of lime and magnesia, silica, &c.

The water on evaporation gave a strong alkaline reaction, the residue strongly effervescing with acid, due to the alkaline carbonates present.

The composition of this water is almost identical with the analysis made of the water taken from the No. 1 Bore, Corrella, also two other samples from the Bourke District.

It is thought that the water is a suitable one for irrigation, stock, and an excellent one for domestic uses.

LOCALITY—BOURKE, WARRAWEENA STATION.

Depth, 1,175 ft.; temperature, 102° F.

Analysis of total solids:—

	Grains per gallon.	In 1,000 parts.
Silica and silicates	4·088	·0584
Carbonate of lime	4·750	·0678
„ magnesia	·037	·0006
„ alumina	trace.	trace.
Sulphate of potash	1·250	·0178
Chloride of sodium	9·720	·1388
Carbonate of potash	12·260	·1751
„ soda	21·663	·3094
Organic matter	trace.	trace.
	53·768	·7697

Remarks:—Water slightly acid, due to carbonic acid gas. As the water was contained in a stoneware jar, corked with a cork which had been previously used, no attempt was made to perform a sanitary analysis of the water.

LOCALITY—BOURKE, WARRAWEENA STATION.

Depth, 450 ft.; temperature, 102° F.

Analysis of total solid matter:—

	Grains per gallon.	In 1,000 parts.
Silica and silicates	1·960	·0280
Carbonate of lime	...	...
„ magnesia	trace.	trace.
„ potash	2·952	·0421
„ soda	20·941	·2991
Chloride of sodium	8·445	·1206
Organic matter	trace.	trace.
	34·298	·4898

The water gave a slight acid reaction—due to carbonic acid. The sample was contained in a jar, corked with a cork which had been previously used, the jar also having a peculiar odour, due no doubt to the liquid it previously contained, hence no attempt was made to perform a sanitary analysis of the water.

Remarks:—The suitability or unsuitability of water for irrigation purposes depends on various circumstances—the kind of crop or trees it is proposed to grow, also the drainage whereby the salts accumulated in the soil may be got rid of. On comparing the analysis it will be observed that the total solid residues consist largely of alkaline carbonates, which are known to exert a corrosive action on the young roots of plants. This action can to a certain extent be remedied by the addition of small quantities of gypsum to the soil it is proposed to irrigate. The amount of alkalies present, however, in these waters is not very large, and it is thought that if they are carefully used they are suitable waters for irrigation purposes.

LOCALITY—COONABARABRAN.

Total solid matter dried at 220° F. = 41·076 grains per gallon.

Free ammonia	·0026 parts per 100,000
Albuminoid ammonia	Nil.
Nitrogen as nitrates	Minute trace.
„ nitrites	Nil.
Oxygen absorbed in 15 minutes	·0015 parts per 100,000.
„ „ 4 hours	·0021 „ „

Colour in 2-ft. tube, colourless, no suspended matter present; odour when heated to 100° F., nil; reaction to litmus paper, slightly acid, due to carbonic acid; poisonous metals, nil.

Analysis of total solids :—

	Grains per imperial gallon.
Silica as silicates	2·352
Lime (Ca O)	5·124
Magnesia (Mg O)	4·348
Potash (K_2 O)	3·130
Soda (Na_2 O)	5·538
Phosphoric acid (P_2 O_5)	minute trace.
Sulphuric acid (SO_3)	·153
Carbonic „ (CO_2)	1·540
Chlorine (Cl)	16·700
Organic matter and moisture	2·188
	41·073

LOCALITY—LOUTH, WANAARING ROAD, 25-MILE BORE.

	Grains per gallon.	Per 1,000 parts.
Chloride of sodium	278·382	3·9769
„ potassium	12·274	·1953
„ calcium	5·838	·0834
„ magnesium	6·580	·1169
Carbonate of lime	8·190	·0940
Silica and silicates	·996	·0142
Sulphuric acid (SO_3)	trace.	trace.
Organic matter	„	„
Total solid residue	312·260	4·4607

Remarks :—The sample contained a sediment at the bottom of the bottles, which consisted largely of sand, showing that they were not carefully taken. The analysis was conducted on the filtered water.

The amount of saline matter present in this water, consisting mainly of sodium chloride (common salt), renders it not a desirable one for irrigation purposes. For a time, plants and vegetation would no doubt thrive, but the water, if continually used, would be injurious to plant life, owing to the accumulation of salt, which would collect near the surface.

The water is unsuitable for continued domestic use, and is not a good water for stock.

Taking the total solid residue at 312 grains per gallon, the amount of salts formed as a white deposit near the surface, on the evaporation of the water, would be about 4⅓ ounces per square foot irrigated.

Note.—Ten inches of water is usually estimated in the course of the year to perfect a crop. One gallon covers about ½ a square foot 1 inch deep. Six gallons per square foot is equal to 10 inches depth of water. (Professor E. W. Hilgard, College of Agriculture, California.)

LOCALITY—LOUTH, WANAARING ROAD, 46-MILE BORE.

	Grains per gall.	In 1,000 parts.
Chloride of sodium	78·173	1·1167
„ potassium	52·508	·7501
Carbonate of soda	7·952	·1136
„ magnesia	·987	·1078
„ lime	7·550	·0141
Silica and silicates	1·204	·0172
Sulphuric acid (SO_3)	trace.	trace.
Organic matter	„	„
Total solid residue	148·374	2·1195

Remarks :—This water is too saline for continued domestic use, but may be used for stock purposes The amount of common salt present is rather high, it being over the quantity allowable in an irrigation water, but the large proportion of chloride of potassium renders the water valuable, especially for the irrigation of growing crops. The water should be carefully used, and it is possible that by deep drainage, and occasional floodings, that a water of this class could be used. * The amount of saline matter deposited on evaporation of the water would be about 2 ounces per square-foot irrigated.

* Note as per foregoing.

Locality—Mary Vale, near Wellington.

The water yielded on evaporation at 220° F. 1305·248 grains of total fixed matter per gallon.

Chlorine in combination, 613·816 grains per gallon; sulphuric acid in combination, 133·952 grains per gallon; free ammonia, ·012 parts per 100,000; albuminoid ammonia, ·008 parts per 100·000.

Taste, very saline; reaction, alkaline; odour, earthy; colour in 2-ft. tube, light pale green.

The total solids consist largely of sodium, potassium, lime, magnesia, with lesser quantities of silica and alumina, combined with chlorine, sulphuric acid, carbonic acid, &c.

Remarks:—The water is strongly impregnated with mineral matter, a large proportion of the total solids consisting of chloride of sodium (common salt). May be classed as a brackish water, possessing no medicinal qualities, and unsuitable for human consumption, irrigation purposes, and is not a desirable one for watering stock with.

Locality—Menah, Mudgee.

Well 30 feet deep, in drift, half a mile from Cudgegong River.

The water on evaporation yielded a total fixed residue at the rate of 54·264 grains per gallon (dried at 220° F.)

	Grains per gall.	In 1,000 parts.
Silica and silicates	2·260	·03228
Alumina and oxide of iron	trace.	trace.
Lime (CaO)	7·700	·11000
Magnesia (MgO)	7·570	·10814
Soda (Na_2O)	11·089	·15841
Potash (K_2O)	trace.	trace.
Carbonic acid (CO_2)	3·400	·04857
Sulphuric acid (SO_3)	2·278	·03254
Phosphoric acid (P_2O_5)	trace.	trace.
Chlorine (Cl.)	20·800	·29714
	55·097	·78708

Free ammonia, nil per 100,000 parts; albuminoid ammonia, nil per 100,000 parts; nitrogen as nitrates, nil per 100,000 parts; nitrogen as nitrites, nil per 100,000 parts. Colour in 2-foot tube, pale green; odour when heated to 100° C., organic; taste, nil; reaction to litmus, slightly acid, due to carbonic acid; poisonous metals, nil.

The analysis made proves the water to be exceptionally free from organic impurities, and it may be classed as a good sample of potable water, suitable for all domestic uses, stock, and irrigation purposes.

Locality—Mittagong.

	Grains per gall.
Magnesium chloride	1·296
Potassium chloride	2·042
Sodium chloride	2·158
Calcium bicarbonate	2·041
Magnesium bicarbonate	2·243
Iron bicarbonate	5·985
	15·765

Free ammonia, nil per 100,000 parts; organic or albuminoid ammonia, nil per 100,000 parts; nitrogen as nitrates, nil per 100,000 parts; nitrogen as nitrites, nil per 100,000 parts. Colour in 2-foot standard tube, light brown; reaction to litmus, acid, due to carbonic acid; taste, inky; odour, earthy.

Remarks:—This water may be classed as a chalybeate water, and possesses medicinal qualities; it should be useful as a general stimulant and tonic.

Locality—Parramatta Water Supply.

	Grains per gall.	Parts per 100,000.
Free ammonia	nil.	nil.
Albuminoid ammonia	·011	·016
Nitrogen as nitrates	present.	present.
,, nitrites	,,	,,
Oxygen absorbed in 15 min.	·102	·146
,, ,, 4 hrs.	·217	·310
Total solids	9·338	13·340
Phosphoric acid as phosphates	minute trace.	minute trace.
Chlorine as chlorides	2·200	3·140

Appearance in 2-foot tube, reddish brown colour; odour when heated to 100° F., organic.

Remarks:—Water turbid, due to fine clay held in suspension. The residue strongly darkened on ignition, emitting a foul odour, thus showing the presence of organic matter.

Water as delivered to the town of Parramatta, after passing through the filter beds :—

	Grains per gall.	Parts per 100,000
Free ammonia	nil.	nil.
Albuminoid ammonia	·010	·015
Nitrogen as nitrates	present.	present.
,, nitrites	,,	,,
Oxygen absorbed in 15 min.	·122	·175
,, ,, 4 hrs	·205	·293
Total solids	10·05	15·00
Phosphoric acids as phosphates	minute trace.	minute trace.
Chlorine as chlorides	2·20	3·14

Remarks:—The residue strongly darkened on ignition, emitting a foul odour. The water was turbid, and extremely difficult to filter, due to fine clay held in suspension.

Appearance in 2-foot tube, reddish brown colour; odour when heated to 100° F., organic.

LOCALITY—PEAK HILL, 30 MILES FROM PARKES.

The water yielded on evaporation a total solid residue equal to 942·004 grains per gallon (dried at 220° F.)

	Grains per gallon.
Chlorine in combination	329·63
Sulphuric acid in combination	183·92

The major portion of the total solid residue consists of saline matter, chiefly of chloride of sodium (common salt), sulphate of soda (Glauber's salt), with lesser quantities of sulphate of magnesia (Epsom salts), alkaline, carbonates, traces of nitrates, iodine, &c.

The "insoluble" consists of silica, carbonates of lime and magnesia, trace of alumina, &c.

Remarks:—The water was strongly saline to the taste, and gave a slight alkaline reaction. The action of this water should prove a strongly purgative one from the large amount of sulphate of soda (Glauber's salt) present, but the presence of such a large quantity of chloride of sodium (common salt) renders it of little value as a medicinal water having any commercial value. The sample may be classed as unfit for man or beast.

LOCALITY—TIBOOBURRA, OLIVE DOWNS.

Water from Station well.

On opening the bottle containing the water a strong smell of sulphuretted hydrogen was noticed, and the water was found to contain a quantity of that gas in solution.

	Grains per gallons.
Total solids	109·20
Chlorine	58·31
Sulphuric acid (SO_3)	8·17

A qualitative analysis showed that the water contained chiefly chloride of sodium, with small quantities of silica, lime, magnesia, and organic matter. No nitrates, nitrites, poisonous metals, or phosphoric acid present.

LOCALITY—NO. 2 WELL, OLIVE DOWNS, TIBOOBURRA.

This water was colourless and odourless, it tasted strongly of common salt. As the sample was rather small, only a partial analysis was made. Total solids equal—1292·90 grains per gallon. Partial analysis of total solids.

	Grains per gallon.
Lime (CaO)	67·012
Magnesia (MgO)	114·276
Sulphuric acid (SO_3)	171·220
Chlorine	578·200
Potash and soda (approximate only)	362·192
	1292·900

No nitrates, nitrites, or organic matter, carbonates, phosphates, or poisonous metals present.

MISCELLANEOUS ANALYSES.

LOCALITY—BUNDANOON.

Clay, yielding:—

	Per cent.	
Moisture at 100° C.	2·80	
Combined water	6·46	
Silica	50·17	
Alumina	34·26	
Ferric oxide	trace.	
Ferrous oxide	,,	
Lime	nil.	
Magnesia	·19	
Manganese oxide	trace.	duplicate
Potash (K_2O)	6·17	— 6·05
Soda (Na_2O)	·09	
Phosphoric acid	·09	
Sulphuric acid	nil.	
Titanic acid	,,	
Organic matter	,,	
	100·23	

Remarks.—The amount of potash present in this clay is high. A brick made of the clay, in drying and burning, split to pieces.

LOCALITY—BROKEN HILL.

Garnet-bearing kaolin, with yellow, brown, and red stains. From 285 feet deep, Block 11, Broken Hill.

It is stated that the mineral on exposure to the light darkens. The dark portions of the mineral consist of iodide of silver, with a trace of chloride of silver. Streaks of cinnabar occur through the mineral. The darkening on exposure to the air is due to the chloride of silver present, light having little action on iodide of silver, excepting in the presence of nitrate of silver, or metallic silver.

LOCALITY—BLOCK 10 MINE, BROKEN HILL.

"Crude" crushed sulphides of zinc, and lead, and quartz, yielding:—

	Per cent.
Moisture	2·065
Metallic iron	5·675
,, lead	18·755
,, zinc	28·251
,, copper	·244
,, arsenic	·057
,, antimony	trace.
,, cadmium	strong trace.
,, bismuth	nil.
,, silver*	·0925
,, gold†	trace.
Alumina	2·161
Lime	nil.
Magnesia	2·399
Sulphur	20·426
Carbonic acid	·350
Gangue‡	18·500
Soluble salts§	·510
	99·4855

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* Silver at the rate of 30 oz. 4 dwt. 8 gr. per ton. † Gold at the rate of 3 dwt. 6 gr. per ton. ‡ The gangue (insoluble in acids) consists of small garnets, sand, and fine clay. § The salts, soluble in water, consists of alkaline sulphate and chlorides.

LOCALITY—BLOCK 10 MINE, BROKEN HILL.

"Treated" ore.—Sulphides of zinc, and lead, and quartz, yielding :—

	Per cent.
Moisture	2·570
Metallic lead	23·946
" zinc	28·093
" copper	·558
" arsenic	·040
" antimony	trace.
" cadmium	"
" bismuth	nil.
" silver*	·0965
" gold†	trace.
Ferric oxide	7·948
Alumina	2·275
Magnesia (MgO)	·300
Sulphur	16·679
Lime (CaO)	1·151
Sulphuric acid (SO_3)	1·476
Chloride of sodium	1·700
Silicia	7·450
Ferric oxide	·450
Alumina	1·350
Manganous oxide	2·531
Lime (CaO)	·644
Magnesia (MgO)	·324
Fluorine	trace.
	99·5815

* Fine silver at the rate of 31 oz. 10 dwt. 6 gr. per ton. † Gold 3 dwt. 6 gr. per ton.

I have perused the letter sent with the samples *re* new process for the treatment of the sulphide ores at Broken Hill, and failed to see what reaction could take place by this treatment. The zinc is not removed, this metal being the whole trouble in connection with the treatment of this class of ore. The "treated sample" is certainly not suitable for smelting in an ordinary blast furnace, without previous treatment, in order to eliminate the bulk of the zinc.

A trace only of fluorine was detected in the "treated sample," the balance of the quantity stated to have been used as fluorspar, no doubt being eliminated through some cause in the treatment.

J. C. H. MINGAYE, F.C.S., &c.,
Analyst and Assayer.

LOCALITY—BULLADELAH.

Alunite, yielding :—

	Per cent.
Moisture at 100° C.	·44
Combined water	7·14
Silica (SiO_2)	69·20
Alumina (Al_2O_3)	22·23
Ferric oxide (Fe_2O_3)	·32
Lime (CaO)	nil.
Magnesia (MgO)	"
Potash (K_2O)	·65
Sulphuric acid (SO_3)	nil.
Phosphoric acid (P_2O_5)	"
Titanic acid (TiO_2)	trace.
	99·98

LOCALITY—5 MILES FROM BARRABA.

Tripolite, yielding :—

	Per cent.
Moisture at 100° C.	7·30
Combined water and organic matter	4·03
Silica	71·62
Alumina and Oxide of iron	14·07
Carbonate of lime	1·43
" magnesia	1·66
	100·11

Locality—No. 2 Bore, Cremorne, between 1,200 and 1,300 feet deep.

Micaceous shaley sandstone, yielding :—	Per cent.
Moisture at 100° C.	·22
Combined water	1·04
Silica	89·64
Alumina	6·53
Ferric oxide	1·94
Manganous oxide	trace.
Lime	„
Magnesia	·03
Potash	·83
Soda	·07
Phosphoric acid	trace.
Sulphuric acid	nil.
Carbon dioxide	„
	100·30

Two small bricks were made of this material, and submitted to the highest heat obtainable in the coke assay furnace, with the result that no fusion had taken place, the sharp edges being retained.

Locality—Two miles from Capertee.

Argillaceous sandstone.

A small brick was made up of this material, and submitted to nearly a white heat in the coke assay furnace, with the result that no fusion had taken place, the sharp edges of the brick being retained. Should prove useful for the manufacture of a good description of fire-brick.

Locality—Caloola Creek, near Orange.

Pipeclay, yielding :—	Per cent.
Moisture at 100° C.	·35
Combined water	3·13
Silica	79·28
Alumina	14·80
Oxide of iron	·54
Lime	·28
Magnesia	·25
Alkalies	1·37
	100·00

Locality—Coraki Coal-mine.

Clay, yielding :—	Per cent.
Moisture at 100° C.	2·45
Combined water	4·86
Silica	67·64
Alumina	19·18
Oxide of iron (Fe_2O_3)	1·11
„ (FeO)	·28
Lime (CaO)	·52
Magnesia (MgO)	·79
Potash (K_2O)	2·98
Soda (Na_2O)	·57
Titanic acid (TiO_2)	nil.
Sulphuric acid (SO_3)	„
Phosphoric acid (P_2O_5)	trace.
	100·38

Locality—Doughboy Hollow.

Volcanic mud, yielding :—	Per cent.
Hygroscopic moisture	6·20
Volatile hydrocarbons	18·71
Fixed carbons	5·42
Ash	69·67
	100·00

LOCALITY—FORSTER (?).

Clay, yielding :—	Per cent.
Moisture at 100° C.	2·88
Combined water	5·95
Silica (SiO_2)	70·57
Alumina (Al_2O_3)	16·27
Ferric oxide (Fe_2O_3)	1·07
Ferrous oxide (FeO)	......
Manganous oxide (MnO)	nil.
Lime (CaO)	·13
Magnesia (MgO)	·38
Potash (K_2O)	2·20
Soda (Na_2O)	·27
Phosphoric anhydride (P_2O_5)	nil.
Sulphuric anydride (SO_3)	·41
Titanic acid (TiO_2)	nil.
Organic matter	„
	100·13

Remarks.—Bricks made from this clay, and submitted to a high heat in the coke assay furnace, showed no fusion, the sharp edges being retained. The bricks appeared to be of excellent quality.

LOCALITY—FORSTER, CAPE HAWKE.

Decomposed intrusive rock, probably a felsite.

Two models were made of this material, and subjected to nearly white heat in coke assay furnace, with the result that no fusion had taken place, the sharp edges being retained.

LOCALITY—GOULBURN DISTRICT.

Amorphous carbonate of lead, yielding :—	Per cent.
Moisture at 100° C.	·16
Carbonate of lead	85·63
Carbonate of magnesia	·66
Alumina and trace of oxide of iron	·74
Insoluble in acids (clay)	11·88
Undetermined	·93
	100·00

Silver, a trace.
Gold, nil.

LOCALITY—FORTY-TWO MILES FROM GLEN INNES.

Tripolite, yielding :—	Per cent.
Moisture at 100° C.	6·50
Combined water	6·14
Silica	71·53
Alumina	14·36
Oxide of iron	trace.
Oxide of manganese	„
Carbonate of lime	·82
Carbonate of magnesia	·68
	100·03

LOCALITY—NEAR GRENFELL.

Black substance, probably derived from the decomposition of animal excrement in caves, yielding :—

	Per cent.
Total nitrogen	2·24
Equal to potassic nitrate	16·15
Phosphoric acid	·377
Insoluble matter (sand and clay)	30·570

The whole of the nitrogen present is combined with potash, the major portion of the phosphoric acid is in the soluble state. This substance, if found in any quantity, should be valuable as a manure.

Locality—Great Jingera Silver-mine, Whipstick, Wyndham.

Roughly concentrated ore, rich in silver, yielding :—

	Per cent.
Moisture at 100° C.	1·44
Combined water	3·24
Chloride of silver ($AgCl$)	47·70
Sulphide of silver (Ag_2S)	5·03
Oxide of bismuth (Bi_2O_3)	12·73
Ferric oxide (Fe_2O_3)	1·24
Ferrous oxide (FeO)	7·72
Alumina (Al_2O_3)	1·16
Magnesia (MgO)	·10
Insoluble siliceous matter	20·30
Carbonic acid (CO_2)	trace.
	100·66

Gold, a trace.
No bromine or iodine detected.

Locality—Leconfield, Branxton.

Clay, yielding :—

	Per cent.
Moisture at 100° C.	6·43
Combined water	5·33
Silica	59·15
Alumina	22·68
Ferric oxide	1·74
Lime	·76
Magnesia	1·08
Potash (K_2O)	3·09
Soda (Na_2O)	·05
Sulphuric acid (SO_3)	nil.
Phosphoric acid (P_2O_5)	trace.
	100·31

A brick made of this clay, when carefully dried and burnt, split to pieces. A second was made with the addition of half its weight of sand. No fusion had taken place, the sharp edges being retained.

Locality—Leconfield, Branxton.

Clay, yielding :—

	Per cent.
Moisture at 100° C.	3·15
Combined water	6·98
Silica (SiO_2)	60·10
Alumina (Al_2O_3)	24·88
Ferric oxide (Fe_2O_3)	1·27
Ferrous oxide (FeO)	......
Manganous oxide (MnO)	nil.
Lime (CaO)	·36
Magnesia (MgO)	1·18
Potash (K_2O)	2·49
Soda (Na_2O)	·08
Phosphoric anhydride (P_2O_5)	trace.
Sulphuric anhydride (SO_3)	„
Titanic acid (TiO_2)	„
Organic matter	nil.
	100·49

Remarks:—Bricks made from this clay, and submitted to a high heat in the coke-assay furnace, showed no fusion, the sharp edges being retained. The bricks appeared to be of excellent quality.

Locality—Mount Pleasant Coal-mine.

Micaceous shale with plant impressions, yielding:—

	Per cent.
Moisture at 100° C.	1·48
Combined water	4·61
Silica	68·28
Alumina	21·29
Ferric oxide	·87
Manganese oxide	nil.
Lime	·30
Magnesia	·70
Potash (K_2O)	1·86
Soda (Na_2O)	·31
Sulphuric acid	nil.
Phosphoric acid	,,
Titanic acid	trace.
Organic matter	,,
	99·70

Locality—Moonbi.

Portion of meteorite,* yielding:—

Specific gravity of borings at 60° F. .... 7·833

	Per cent.
Metallic iron	91·350
,, nickel	7·886
,, cobalt	·564
,, copper	A minute trace.
,, tin	·003
,, manganese	absent.
,, chromium	trace.
,, calcium	,,
Silica	·039
Graphite	·068
Combined carbon	trace.
Sulphur	absent.
Phosphorous	·217
Oxygen	trace.
	100·127

* This meteorite had been subjected to the heat of a blacksmith's forge before it had been received at this office.

Locality—Macleay District.

Light grey-coloured clay, yielding:—

	Per cent.
Moisture at 100° C.	2·37
Combined water	6·07
Silica	65·17
Alumina	21·89
Ferric oxide	·19
Manganous oxide	nil.
Lime	·50
Magnesia	1·03
Phosphoric acid	trace.
Sulphuric acid	nil.
Potash (K_2O)	2·02
Soda (Na_2O)	1·16
Titanic acid ...	nil.
Organic matter	,,
	100·40

LOCALITY—MERIMBULA.

Clay, yielding :—

	Per cent.
Moisture at 100° C.	2·04
Combined water and organic matter	7·17
Silica	68·73
Alumina	19·00
Oxide of iron (Fe_2O_3)	1·85
Lime	·20
Magnesia	·27
Titanic acid	trace.
Alkalies	·74
	100·00

LOCALITY—MOUNT COSTIGAN.

Crushed sample, yielding :—

Gold	2 dwt. 10 gr.	per ton.
Silver	15 oz. 16 dwt. 1 gr.	,,
Silica	2·50	per cent.
Iron	23·78	,,
Arsenic	nil	,,
Lead	9·70	,,
Copper	6·72	,,
Zinc	12·66	,,
Sulphur	38·42	,,

LOCALITY—MOUNT COSTIGAN.

Crushed sample, yielding :—

Gold	1 dwt. 15 gr.	per ton.
Silver	36 oz. 10 dwt. 2 gr.	,,
Silica	17·49	per cent.
Iron	5·73	,,
Arsenic	nil	,,
Lead	25·07	,,
Copper	17·14	,,
Zinc	7·90	,,
Sulphur	10·61	,,

LOCALITY—MOUNT COSTIGAN.

Crushed sample, yielding :—

Gold	2 dwt. 10 gr.	per ton.
Silver	10 oz. 11 dwt. 12 gr.	,,
Silica	16·06	per cent.
Iron	14·24	,,
Arsenic	trace	,,
Copper	1·35	,,
Lead	4·98	,,
Zinc	31·66	,,
Sulphur	27·67	,,

LOCALITY—MOUNT COSTIGAN.

Crushed sample, yielding :—

Gold	2 dwt. 10 gr.	per ton.
Silver	14 oz. 8 dwt. 7 gr.	,,
Silica	14·36	per cent.
Iron	13·57	,,
Arsenic	a trace	,,
Lead	9·13	,,
Copper	9·86	,,
Zinc	19·32	,,
Sulphur	26·47	,,

Locality—Mount Costigan.

Crushed sample, yielding :—

Gold	5 dwt. 10 gr.	per ton.
Silver	29 oz. 2 dwt. 13 gr.	,,
Silica	28·74	per cent.
Iron	23·58	,,
Lead	7·03	,,
Copper	2·96	,,
Sulphur	4·68	,,

Locality—Mount Costigan.

Crushed sample, yielding :—

Gold	2 dwt. 4 gr.	per ton.
Silver	2 oz. 18 dwt. 8 gr.	,,
Silica	38·09	per cent.
Iron	18·36	,,
Lead	6·01	,,
Copper	1·07	,,
Sulphur	·56	,,

Locality—Mount Costigan.

Crushed slag, yielding :—

Lead	2·39	per cent.
Ferrous oxide, 32·32 per cent. = Metallic iron	25·14	,,
Lime	18·43	,,
Silica	33·60	,,
Silver	2 oz. 1 dwt. 9 gr.	per ton.
Gold	a trace.	

This sample nearly all decomposed in hot acids.

Locality—Mount Costigan.

Crushed slag, yielding :—

Lead	4·09	per cent.
Ferrous oxide (FeO) 36·17 per cent. = Metallic iron	28·15	,,
Lime (CaO)	13·85	,,
Silica (SiO_2)	33·02	,,
Silver	2 oz. 3 dwt. 13 gr.	per ton.
Gold	nil.	

This sample only partially decomposed in hot acids.

Locality—2 miles West of Molong.

Clay, yielding :—	Per cent.
Moisture at 100° C.	4·06
Combined water	9·33
Organic matter	·83
Silica (SiO_2)	58·84
Alumina (Al_2O_3)	22·86
Ferric oxide (Fe_2O_3)	1·66
Ferrous oxide (FeO)	nil.
Lime (CaO)	trace.
Magnesia (MgO)	·61
Alkalies	1·81
Phosphoric acid (P_2O_5)	nil.
Sulphuric acid (SO_3)	,,
	100·00

Some of the clay was moulded into a small brick with sharp edges, and submitted to nearly a white heat in the coke assay furnace, with the result that no fusion had taken place.

Locality—Newcastle.

Carbonaceous clay, yielding :—

Moisture	9·76
Carbon	19·53
Gangue	70·71
	100·00

Locality—Richmond River (Aberdare Coal-mine, Swan Bay).

Light grey coloured clay (6 feet thick) ; yielding :—

Moisture at 100° C.	2·37
Combined water	6·07
Silica	65·17
Alumina	21·89
Ferric oxide	0·19
Manganous oxide	nil.
Lime	·50
Magnesia	1·03
Phosphoric acid	trace.
Sulphuric acid	nil.
Potash (K_2O)	2·02
Soda (Na_2O)	1·16
Titanic acid	......
Organic matter	nil.
	100·40

Remarks.—Several small bricks with and without the addition of silica, were made of this clay, and carefully dried, they being submitted to a high heat in the assay coke furnace with the result that no fusion had taken place, the sharp edges being retained. The bricks had the appearance of being excellent fire bricks.

Locality—Richmond River (Aberdare Coal-mine, Swan Bay).

Dark grey clay with plant impressions (7 feet thick), yielding :—

Moisture at 100° C.	1·72
Combined water	5·66
Silica (SiO_2)	65·11
Alumina (Al_2O_3)	21·55
Ferric oxide (Fe_2O_3)	·71
Ferrous oxide (FeO)	......
Manganous oxide (MnO)	trace.
Lime (CaO)	1·15
Magnesia (MgO)	0·90
Potash (K_2O)	3·09
Soda (Na_2O)	0·25
Phosphoric anhydride (P_2O_5)	trace.
Sulphuric anhydride (SO_3)	nil.
Titanic acid (TiO_2)	......
Organic matter	trace.
	100·14

Remarks.—The remarks to the foregoing analysis may refer also to this sample.

Locality—Richmond River (Aberdare Coal-mine, Swan Bay).

Dark grey clay with plant impressions (7 feet thick), yielding :—

Moisture at 100° C.	3·05
Combined water	4·63
Silica (SiO_2)	63·02
Alumina (Al_2O_3)	20·96
Ferric oxide (Fe_2O_3)	2·94
Ferrous oxide (FeO)	......
Manganous oxide (MnO)	nil.
Lime (CaO)	1·32
Magnesia (MgO)	1·06
Potash (K_2O)	2·90
Soda (Na_2O)	·44
Phosphoric anhydride (P_2O_5)	·04
Sulphuric anhydride (SO_3)	nil.
Organic matter	trace.
	100·36

Remarks :—Bricks made from this clay burnt to a reddish colour, no fusion was observed, the sharp edges being retained. Not equal to the foregoing.

Locality—Richmond River (Aberdare Coal-mine, Swan River).

Very dark brown clay with plant impressions, yielding :—

Moisture at 100° C.	3·76
Combined water	7·12
Silica (SiO_2)	56·50
Alumina (Al_2O_3)	25·39
Ferric oxide (Fe_2O_3)	1·11
Ferrous oxide (FeO)	......
Manganous oxide (MnO)	nil.
Lime (CaO)	1·45
Magnesia (MgO)	2·08
Potash (K_2O)	2·71
Soda (Na_2O)	·29
Phosphoric anhydride (P_2O_5)	trace.
Sulphuric anhydride (SO_3)	nil.
Titanic acid (TiO_2)	trace.
Organic matter	......
	100·41

Remarks :—Bricks made from this clay with and with-out the addition of silica were of excellent quality, no fusion had taken place, the sharp edges being retained.

Locality—Richmond River (Aberdare Coal-mine, Swan Bay).

Clay, yielding :—

Moisture at 100° C.	2·33
Combined water	2·13
Silica (SiO_2)	67·03
Ferric oxide (Fe_2O_3)	0·91
Ferrous oxide (FeO)	nil.
Alumina (Al_2O_3)	20·75
Manganous oxide (MnO)	nil.
Lime (CaO)	trace.
Magnesia (MgO)	0·54
Potash (K_2O)	2·89
Soda (Na_2O)	0·31
Phosphoric anhydride (P_2O_5)	trace.
Sulphuric anhydride (SO_3)	,,
Titanic acid (TiO_2)	......
Organic matter	3·04
	99·93

Remarks.—Bricks made from this clay with and without the addition of silica, were of excellent quality, no fusion had taken place, the sharp edges being retained.

Locality—Richmond River (Aberdare Coal-mine, Swan Bay).

Clay, yielding :—

Moisture at 100°C	2·60
Combined water	2·38
Silica (SiO_2)	65·95
Alumina (Al_2O_3)	18·85
Ferric oxide (Fe_2O_3)	3·33
Ferrous oxide (FeO)	......
Manganous oxide (MnO)	nil.
Lime (CaO)	trace.
Magnesia (MgO)	·97
Potash (K_2O)	2·02
Soda (Na_2O)	·83
Phosphoric anhydride (P_2O_5)	·09
Sulphuric anhydride (SO_3)	trace.
Titanic acid (TiO_2)	......
Organic matter	2·96
	99·98

Remarks.—Bricks made of this clay were of reddish colour—due to the iron oxide present—on burning the sharp edges were retained, but in one or two places fusion had slightly taken place.

Locality—Richmond River (Aberdare Coal-mine, Swan Bay).

Clay, yielding :—

Moisture at 100°C	1·56
Combined water	4·38
Silica (SiO_2)	67·28
Alumina (Al_2O_3)	20·07
Ferric oxide (Fe_2O_3)	1·03
Ferrous oxide (FeO)	......
Manganous oxide (MnO)	nil.
Lime (CaO)	·60
Magnesia (MgO)	1·19
Potash (K_2O)	3·08
Soda (Na_2O)	·62
Phosphoric anhydride (P_2O_5)	nil.
Sulphuric anhydride (SO_3)	,,
Titanic acid (TiO_2)	trace.
Organic matter	,,
	99·81

Remarks.—Yielded excellent bricks, the sharp edges being retained, and no fusion taking place.

Locality—Shoalhaven District.

Quartzite boulder, yielding :—	per cent.
Silica	89·32
Alumina	5·15
Potash	·91
Sulphuric acid	·99

Locality—Shoalhaven District.

Fine grained quartzite, yielding :—	per cent.
Silica	95·30
Alumina and iron oxide	4·37
Potash	·84
Sulphuric acid	·16

Locality—Shoalhaven District.

Conglomerate, yielding :—	per cent.
Silica	84·78
Alumina and traces of oxide of iron	10·62
Potash ($K_2 O$)	·31
Sulphuric anhydride	·94

Locality—White Cliffs, near Wilcannia.

Flint, yielding :—

Moisture at 100° C.	2·66
Combined water	5·70
Silica	82·70
Ferric oxide	·72
Manganous oxide	trace.
Alumina	1·48
Lime	1·40
Magnesia	2·97
Potash	·26
Soda	·11
Carbonic acid	1·56
Sulphuric acid	trace.
Phosphoric acid	„
Titanic acid	„
	99·56

Locality—Near Wilcannia.

Sand cemented by carbonate of lime, yielding :—

Water at 100° C.	·90
Combined water	·98
Silica	38·75
Alumina	7·42
Ferric oxide ($Fe_2 O_3$)	·63
Ferrous oxide ($Fe O$)	·12
Manganous oxide	nil.
Calcium carbonate	45·30
Magnesium carbonate	5·06
Magnesia ($Mg O$)	·56
Phosphoric anhydride	nil.
Sulphuric „	·14
	99·86

Locality—Wyrallah.

Tripolite, yielding :—

Moisture at 100° C.	5·36
Combined water	5·96
Silica	86·01
Alumina and oxide of iron	2·83
Lime	trace.
Magnesia	„
Organic matter	„
	100·16

Locality—Yulgilbar, near Kempsey.

Magnesite, yielding :—	per cent.
Magnesium carbonate	96·72
Impurities	1·64

Silica, alumina, moisture and trace of iron oxide.

SUMMARY.

The total value of the mineral products of this Colony to the end of 1892 is £98,842,779 1s. 5d., details of which are given in the following table:—

	Quantity.	Value.			Total Values.		
		£	s.	d.	£	s.	d.
Quantity and value of coal raised prior to 1st January, 1892	53,850,743·88 tons	25,809,040	10	11			
Quantity and value of coal raised in 1892	3,780,967·71 „	1,462,388	9	4			
Totals	57,631,711·59 tons	27,271,429	0	3	27,271,429	0	3
Quantity and value of shale raised prior to 1st January, 1892	653,041·00 tons	1,416,716	7	6			
Quantity and value of shale raised in 1892	74,197·15 „	136,079	6	0			
Totals	727,238·15 tons	1,552,795	13	6	1,552,795	13	6
Quantity and value of coke made prior to 1st January, 1892	61,407·35 tons	75,620	9	5			
Quantity and value of coke made in 1892	7,899·00 „	8,852	8	6			
Totals	69,306·35 tons	84,472	17	11	84,472	17	11
Quantity and value of gold won prior to 1st January, 1892	10,373,452·19 oz.	38,633,477	17	10			
Quantity and value of gold won in 1892	156,870·00 „	569,177	17	4			
Totals	10,530,322·19 oz.	39,202,655	15	2	39,202,655	15	2
Quantity and value of silver, silver lead, and ore raised prior to 1st January, 1892	Ingots. 4,941,138·52 oz. Silver lead. 199,616·32 tons Ore. 219,715·90 tons	11,302,095	0	0			
Quantity and value of silver, silver lead, and ore exported in 1892	*Ingots. 350,661·50 oz. Silver lead. 45,850·20 tons Ore. 87,504·75 tons	2,477,836	0	0			
Totals	…………………	13,779,931	0	0	13,779,931	0	0
Quantity and value of copper exported prior to 1st January, 1892	Ingots. 93,925·95 tons Ore and regulus. 5,317·35 tons	6,023,431	0	0			
Quantity and value of copper exported in 1892	Ingots. 3,535·00 tons Ore and regulus. 1,299·20 tons	187,706	0	0			
Totals	…………………	6,211,137	0	0	6,211,137	0	0
Quantity and value of tin exported prior to 1st January, 1892	Ingots. 100,399·76 tons Ore and regulus. 17,722·70 tons	9,526,796	0	0			
Quantity and value of tin exported in 1892	Ingots. 3,253·00 tons Ore and regulus. 239·10 tons	314,114	0	0			
Totals	…………………	9,840,910	0	0	9,840,910	0	0

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* The bulk of the silver is exported in the form of silver-lead and ore.

	Quantity.	Value.			Total Values.		
		£	s.	d.	£	s.	d.
Quantity and value of iron made prior to 1st January, 1892	49,651·42 tons	383,565	13	8			
Quantity and value of iron made during 1892	2,782·17 ,,	22,605	2	6			
Totals	52,433·59 tons	406,170	16	2	406,170	16	2
Quantity and value of antimony exported prior to 1st January, 1892.................	6,047·00 tons	115,798	8	6			
Quantity and value of antimony raised in 1892	728·25 ,,	14,680	0	0			
Totals	6,775·25 tons	130,478	8	6	130,478	8	6
Quantity and value of lead (pig) exported prior to 1st January, 1892.................	839·25 tons	10,323	0	0			
Quantity and value of lead (pig) exported during 1892..................................	70·90 ,,	726	0	0			
Totals	910·15 tons	11,049	0	0	11,049	0	0
Quantity and value of bismuth exported prior to 1st January, 1892......	168·40 tons	36,641	14	0			
Quantity and value of bismuth exported in 1892	14·25 ,,	1,080	0	0			
Totals	182·65 tons	37,721	14	0	37,721	14	0
Quantity and value of oxide of iron and pig-iron exported prior to 1st January, 1892	1,173·15 tons	2,647	0	0			
Quantity and value of oxide of iron and pig-iron exported in 1892.......................	453·15 ,,	869	0	0			
Totals	1,626·30 tons	3,516	0	0	3,516	0	0
Quantity and value of zinc-spelter exported prior to 1st January, 1892...	525·90 tons	5,988	0	0			
Quantity and value of zinc-spelter exported in 1892	444·55 ,,	5,055	0	0			
Totals	970·45 tons	11,043	0	0	11,043	0	0
Quantity and value of limestone flux raised prior to 1st January, 1892................	115,493·80 tons	107,346	11	11			
Quantity and value of limestone flux raised in 1892	103,368·00 ,,	93,031	4	0			
Totals	218,861·80 tons	200,377	15	11	200,377	15	11
Quantity and value of alumite exported prior to 1st January, 1892	924·00 tons	4,888	0	0			
Quantity and value of alumite exported in 1892	821·00 ,,	3,284	0	0			
Totals	1,745·00 tons	8,172	0	0	8,172	0	0
Quantity and value of manganese ore exported prior to 1st January, 1892.........	238·20 tons	665	0	0			
Quantity and value of manganese ore exported in 1892................................	15·80 ,,	47	0	0			
Totals	254·00 tons	712	0	0	712	0	0

	Quantity.	Value.			Total Values.		
		£	s.	d.	£	s.	d.
Quantity and value of opals raised prior to 1st January, 1892	195·00 lb.	15,600	0	0			
Quantity and value of opals raised in 1892...	41·67 „	2,000	0	0			
Totals	236·67 lb.	17,600	0	0	17,600	0	0
Quantity and value of cobalt exported in 1891	1·15 tons	470	0	0			
Quantity and value of cobalt exported in 1892	76·00 „	1,110	0	0			
Totals	77·15 tons	1,580	0	0	1,580	0	0
Quantity and value of fire-clay exported in 1891	16·80 tons	55	0	0			
Quantity and value of fire-clay exported in 1892	35·00 „	80	0	0			
Totals	51·80 tons	135	0	0	135	0	0
Quantity and value of lime exported in 1891	410·00 tons	958	0	0			
Quantity and value of lime exported in 1892	403·00 „	822	0	0			
Totals	813·00 tons	1,780	0	0	1,780	0	0
Quantity and value of marble exported in 1891	635 pkgs.	2,577	0	0			
Quantity and value of marble exported in 1892	....	....					
Totals	635 pkgs.	2,577	0	0	2,577	0	0
Quantity and value of building stone exported in 1891..................................	4,735 No.	5,205	0	0			
Quantity and value of building stone exported in 1892..................................	2,478 „	2,838	0	0			
Totals	7,213 No.	8,043	0	0	8,043	0	0
Quantity and value of ballast stone exported in 1891	619 tons	713	0	0			
Quantity and value of ballast stone exported in 1892..	224 „	276	0	0			
Totals	843 tons	989	0	0	989	0	0
Quantity and value of grindstones exported in 1891	471 No.	311	0	0			
Quantity and value of grindstones exported in 1892..	....	....					
Totals	471 No.	311	0	0	311	0	0
Quantity and value of slates exported in 1891	31,234 No.	351	0	0			
Quantity and value of slates exported in 1892	....	....					
Totals	31,234 No.	351	0	0	351	0	0
Value of sundry minerals exported prior to 1st January, 1892	....	55,683	0	0			
Value of sundry minerals exported in 1892	....	1,158	0	0			
Totals	....	56,841	0	0	56,841	0	0
General Total..........................	....	....			£98,842,779	1	5

TABLE showing approximately the number of miners employed in gold-mining, the quantity of gold won, the area of ground worked, and the value of machinery employed in the Colony of New South Wales, 1892:—

District and Division.	Alluvial Miners.		Quartz Miners.		Total Miners.	Quantity of Gold.			Price of Gold per oz.		Value of gold won.	Auriferous ground worked.	Quartz reefs proved to be Auriferous.	Value of Machinery.
	Europeans.	Chinese.	Europeans.	Chinese.		Alluvial.	Quartz	Total.	From	To				
	No.	No.	No.	No.	No.	oz. dwt. gr.	oz. dwt. gr.	oz. dwt. gr.	s.	s.	£ s. d.	sq. miles	No.	£
ALBERT—														
Milparinka	84	4	6	..	94	253 0 0	43 0 0	293 0 0	77/6	81/	1,104 4 0	100	17	1,380
Tibooburra	75	..	..	..	75	500 0 0	....	500 0 0	..	80/	2,000 0 0	....	....	....
Wilcannia	..	..	17	..	17	....	....	....	..	..	....	....	....	....
	159	4	23	..	186	753 0 0	43 0 0	793 0 0	77/6	81/	3,104 4 0	100	17	1,380
BATHURST—														
Blayney	8	..	150	..	158	100 0 0	327 0 0	427 0 0	72/6	75/	1,545 7 6	5	3	3,850
Bathurst	16	1	14	..	31	228 0 0	110 0 0	338 0 0	57/6	77/6	1,198 15 0	....	....	600
Carcoar	..	..	93	..	93	....	864 3 0	864 3 0	73/	74/	3,150 4 4	....	8	5,346
Newbridge	12	..	20	..	32	30 0 0	26 0 0	56 0 0	70/	75/	202 10 0	3	1	....
Cowra	30	..	50	..	80	20 0 0	150 0 0	170 0 0	70/	77/6	636 0 0	2	3	2,100
Mount McDonald	3	..	26	..	29	20 15 0	1,100 12 7	1,121 7 7	74/	77/6	4,229 0 0	....	....	12,000
Mitchell	86	7	52	..	145	....	1,671 0 0	1,671 0 0	70/	74/	5,992 14 2	5	12	6,300
Oberon	30	..	10	..	40	100 0 0	....	100 0 0	75/	77/6	370 0 0	5	6	700
Orange	..	..	304	..	304	....	17,303 6 0	17,303 6 0	72/6	80/	60,143 19 5	....	....	25,000
Rockley	29	2	..	..	31	313 0 0	....	313 0 0	74/	75/	1,173 15 0	16	....	1,000
Trunkey	84	..	26	..	110	550 0 0	....	550 0 0	75/	..	2,062 10 0	....	....	550
Tuena	20	10	20	..	50	400 0 0	300 0 0	700 0 0	75/	77/6	2,675 3 0	20	4	2,000
Burraga	4	..	..	..	4	90 0 0	....	90 0 0	75/	76/	339 15 0	....	....	1,000
	322	20	765	..	1,107	1,851 15 0	21,852 1 7	23,703 16 7	57/6	80/	83,719 10 5	56	37	60,446
COBAR—														
Condobolin	..	..	8	..	8	....	3 4 0	3 4 0	70/	72/6	11 13 6	....	....	....
Cobar	40	..	170	..	210	165 0 0	1,347 0 0	1,512 0 0	60/	82/	5,883 0 0	25	4	6,500
Euabalong	..	..	23	..	23	....	9 0 0	9 0 0	..	80/	36 0 0	....	....	....
Mount Hope	..	..	27	..	27	....	838 0 0	838 0 0	76/	78/	3,251 0 0	....	....	3,000
	40	..	228	..	268	165 0 0	2,197 4 0	2,362 4 0	60/	82/	9,181 13 6	25	4	9,500
CLARENCE AND RICHMOND—														
Ballina	75	..	..	..	75	682 0 0	....	682 0 0	..	77/10½	2,655 10 9	....	....	....
Dalmorton	20	..	99	..	119	342 7 10	2,024 6 3	2,366 13 13	70/	75/	8,764 10 8	352	130	9,600
Grafton	..	..	50	..	50	243 7 6	1,690 19 15	1,934 6 21	45/	78/	7,324 12 6	....	6	3,000
Nana Creek	3	..	49	..	52	7 0 0	208 11 6	215 11 6	72/6	76/	652 7 2	255	60	1,020
	98	..	198	..	296	1,274 14 16	3,923 17 0	5,198 11 16	45/	78/	19,397 1 1	607	196	13,620
HUNTER AND MACLEAY—														
Copeland	6	..	66	..	72	50 0 0	303 0 0	353 0 0	70/	72/6	1,250 18 6	....	24	3,600
Dungog	..	..	11	..	11	....	96 16 0	96 16 0	72/3	..	253 3 6	....	....	1,700
Kempsey	..	..	16	..	16	....	1,000 0 21	1,000 0 21	..	82/6	4,040 5 0	....	....	....
Taree	..	..	9	..	9	....	....	....	..	..	....	....	....	2,470
Macksville	..	..	16	..	16	....	235 0 0	235 0 0	..	80/	940 0 0	....	....	3,896
	6	..	118	..	124	50 0 0	1,634 16 21	1,684 16 21	70/	82/6	6,484 7 0	....	24	11,666

District and Division.	Alluvial Miners.		Quartz Miners.		Total Miners.	Quantity of Gold.			Price of Gold per oz.		Value of Gold won.	Auriferous ground worked.	Quartz reefs proved to be Auriferous.	Value of Machinery.
	Europeans.	Chinese.	Europeans.	Chinese.		Alluvial.	Quartz.	Total.	From	To				
LACHLAN—	No.	No.	No.	No.	No.	oz. dwt. gr.	oz. dwt. gr.	oz. dwt. gr.	s.	s.	£ s. d.	sq. miles	No.	£
Barmedman	..	..	14	..	14	....	267 1 3	267 1 3	73/9	77/6	1,346 3 9	3	13	4,350
Cudal	..	..	12	..	12	....	80 0 0	80 0 0	75/6	77/6	290 0 0	3	1	350
Forbes	..	..	20	..	20	....	207 19 0	207 19 0	70/	75/	727 15 0	0¼	2	4,200
Grenfell	26	..	72	..	98	132 4 3	781 6 0	913 10 3	76/6	77/6	3,500 5 9	20	27	5,962
Canowindra	4	..	28	..	32	....	1,305 17 3	1,305 17 3	75/	80/	4,902 13 8	....	6	2,480
Murrumburrah	44	6	..	..	50	221 17 9	....	221 17 9	77/	77/6	814 19 1	....	....	....
Parkes	20	..	360	..	380	1,567 17 16	5,161 12 17	6,729 10 9	66/8	75/	23,085 0 1	92	60	19,800
Temora	16	..	30	..	46	186 2 12	102 3 15	288 6 3	75/	80/	1,112 17 3	....	....	....
Young	150	..	..	..	150	1,217 4 17	....	1,217 4 17	77/6	..	4,716 15 6	....	....	15,100
Cargo	..	..	40	..	40	....	250 0 0	250 0 0	70/	80/	960 0 0	2	7	8,022
Alectown	200	..	30	..	230	783 0 0	109 6 0	892 6 0	74/6	78/	3,477 1 0	....	....	....
	460	6	606	..	1,072	4,108 6 9	8,365 5 14	12,473 11 23	66/8	80/	44,933 11 1	120¼	116	60,264
MUDGEE—														
Dubbo	4	..	..	..	4	....	....	....	..	..	....	....	....	....
Gulgong	83	..	..	..	83	....	....	....	..	..	....	....	....	....
Hargraves	80	30	20	..	130	400 0 0	424 0 0	824 0 0	66/	66/6	3,159 0 0	10	....	4,000
Peak Hill	100	..	450	..	550	2,892 10 0	7,177 10 0	10,070 0 0	75/	76/6	38,517 15 0	18	9	15,000
Wellington	80	12	90	..	182	26 6 3	4,047 6 0	4,073 12 3	73/	75/	15,061 2 9	15	1	15,000
Windeyer	70	60	40	..	170	1,200 0 0	660 0 0	1,860 0 0	77/	80/	7,260 0 0	....	....	1,200
Mudgee	25	..	..	..	25	250 0 0	....	250 0 0	76/6	77/8	976 13 4	....	....	....
	442	102	600	..	1,144	4,768 16 3	12,308 16 0	17,077 12 3	66/	80/	64,974 11 1	43	10	35,200
PEEL AND URALLA—														
Stewart's Brook	..	..	97	..	97	....	2,184 0 0	2,184 0 0	68/	72/	7,425 12 0	1	13	10,100
Niangala	..	..	94	..	94	....	861 6 0	861 6 0	65/	77/10	3,229 12 0	8	22	1,770
Nundle	150	50	50	..	250	1,721 5 0	988 0 0	2,709 5 0	74/	76/	10,254 1 9	....	10	8,500
Bingera	100	12	40	..	152	....	....	....	70/	74/6	....	....	4	2,470
Barraba	..	..	30	..	30	....	245 0 0	245 0 0	70/	72/6	875 0 0	....	....	2,650
Armidale	8	..	66	..	74	....	710 0 0	710 0 0	75/	..	2,662 10 0	....	....	9,000
Glen Innes	14	15	25	..	54	216 9 14	460 0 0	676 9 4	70/	80/	2,597 12 6	....	....	....
Hillgrove	..	..	352	..	352	0 15 0	23,904 1 7	23,904 16 7	71/	73/6	83,687 16 8	....	....	35,570
Hillgrove West	..	..	150	..	150	....	8,386 17 15	8,386 17 15	72/	75/	29,916 0 0	....	10	24,300
Scone	..	..	132	..	132	....	2,005 0 0	2,005 0 0	70/	72/6	6,570 0 0	....	30	11,200
Uralla	160	5	..	..	165	1,620 0 0	....	1,620 0 0	74/	77/6	6,075 0 0	....	....	....
Walcha	..	..	50	..	50	....	1,472 0 0	1,472 0 0	70/	71/	5,152 0 0	....	....	5,000
Kookabookra	10	30	80	..	120	100 0 0	1,329 0 0	1,339 0 0	72/6	80/	5,648 16 9	....	10	6,000
Swamp Oak	..	..	117	..	117	....	2,583 0 0	2,583 0 0	63/6	82/6	9,040 10 0	....	15	5,200
Bendemeer	4	..	..	..	4	20 10 0	....	20 10 0	77/2	..	80 6 2	....	4	2,550
Coonabarabran	2	..	2	..	4	....	....	....	..	..	....	10	....	....
	448	112	1,285	..	1,845	3,678 19 14	45,128 4 22	48,807 4 12	63/6	82/6	173,217 11 10	19	114	124,310

District and Division.	Alluvial Miners.		Quartz Miners.		Total Miners.	Quantity of Gold.			Price of Gold per oz.		Value of Gold won.	Auriferous ground worked.	Quartz reefs proved to be Auriferous.	Value of Machinery.
	Europeans.	Chinese.	Europeans.	Chinese.		Alluvial.	Quartz.	Total.	From	To				
	No.	No.	No.	No.	No.	oz. dwt. gr.	oz. dwt. gr.	oz. dwt. gr.	s.	s.	£ s. d.	sq. miles	No.	£
New England—														
Fairfield	47	6	122	..	175	460 0 0	2,839 0 0	3,299 0 0	63/	72/	10,545 15 0	....	....	27,950
Lionsville	16	..	9	..	25	200 0 0	....	200 0 0	70/	73/	730 0 0	....	....	....
Tenterfield	6	..	12	..	18	....	533 0 0	533 0 0	50/	..	1,332 10 0	0¼	2	300
	69	6	143	..	218	660 0 0	3,372 0 0	4,032 0 0	50/	73/	12,608 5 0	0¼	2	28,250
Tambaroora and Turon—														
Hill End	97	46	122	..	265	2,073 1 19	967 16 21	3,040 18 16	75/	78/	11,555 9 0	40	40	10,000
Ironbarks	60	20	100	..	180	806 14 3	2,930 4 22	3,736 19 1	76/6	80/	14,825 19 9	12	28	12,150
Sofala	89	61	130	..	280	2,658 10 11	1,823 9 4	4,481 19 15	75/	75/6	16,807 8 6	504	30	3,512
	246	127	352	..	725	5,538 6 9	5,721 10 23	11,259 17 8	75/	80/	43,188 17 3	556	98	25,662
Tumut and Adelong—														
Albury	..	..	23	..	23	....	254 8 18	254 8 18	73/	80/6	966 17 3	15	14	900
Adelong	97	12	60	..	169	1,653 8 3	2,064 18 12	3,718 6 15	76/	..	14,029 12 10	40	54	34,240
Cooma	10	..	70	..	80	68 5 0	584 0 0	652 5 0	73/	75/6	2,434 19 4	0¾	7	2,200
Captain's Flat	..	..	..	..	..	....	156 0 0	156 0 0	70/	..	546 0 0			600
Gundagai	90	..	10	..	100	232 0 0	....	232 0 0	74/	80/	899 0 0	....	....	5,250
Junee	9	..	12	..	21	5 3 8	73 6 14	78 9 22	75/	77/6	292 10 0	....	6	700
Germanton	5	..	..	..	5	60 0 0	....	60 0 0	80/	82/6	247 10 0	10	....	....
Nimitybelle	..	..	7	..	7	....	....	....	..	..	....	....	....	....
Queanbeyan	4	..	4	..	8	58 16 12	....	58 16 12	76/	77/10	223 3 0	1	2	300
Reedy Flat	72	5	..	..	77	520 0 0	....	520 0 0	76/	78/6	2,015 0 0	....	....	500
Tumbarumba	196	5	..	..	201	1,491 0 0	....	1,491 0 0	72/	81/	5,777 12 6	....	12	3,870
Tareutta	..	..	2	..	2	....	....	....	..	..	....	5	4	....
Cootamundra	..	..	67	..	67	....	86 4 0	86 4 0	..	75/	323 0 0	....	....	1,000
Kiandra	54	16	..	..	70	....	530 0 0	530 0 0	..	72/	1,908 0 0	....	....	....
	537	38	255	..	830	4,618 12 23	3,218 17 20	7,837 10 19	70/	82/6	29,663 4 7	71¾	99	49,560
Southern—														
Araluen	200	28	15	..	243	3,001 0 0	199 8 0	3,200 8 0	69/	76/	12,251 15 0	....	....	19,830
Bombala	38	4	..	..	42	469 0 0	....	469 0 0	77/	..	1,805 13 0	....	....	2,900
Braidwood	96	5	..	..	101	....	....	....	76/	77/6	....	....	....	....
Gunning	..	..	3	..	3	....	....	....	..	..	....	....	1	....
Pambula	..	..	80	..	80	....	4,863 0 0	4,863 0 0	70/	78/	19,912 0 0	3	....	12,415
Cobargo	10	4	..	..	14	....	304 0 0	304 0 0	76/	80/	1,216 0 0	....	1	900
Little River	70	43	10	..	123	1,234 0 0	100 0 0	1,334 0 0	..	80/	5,336 0 0	32	6	2,165
Milton	..	..	25	..	25	....	....	....	..	..	....	....	....	....
Major's Creek	92	9	..	..	101	1,065 1 0	....	1,065 1 0	68/	75/	3,962 11 6	....	15	20,115
Moruya	..	..	114	..	114	....	829 0 0	829 0 0	75/	77/	3,103 15 0	3	8	6,200
Nerrigundah	40	20	40	..	100	291 4 18	288 3 0	579 7 18	80/	82/6	2,325 0 0	10	....	6,600
Nowra	..	..	86	..	86	....	2,879 0 0	2,879 0 0	70/	72/6	8,076 0 0	....	....	20,060
Nerriga	70	..	8	..	78	340 0 0	30 0 0	370 0 0	77/6	83/	1,484 5 0	20	21	21,890
Wagonga	59	..	65	..	124	94 15 1	767 10 11	862 5 12	72/6	80/	3,189 19 2	....	....	4,700
	675	113	446	..	1,254	6,495 0 19	10,260 1 11	16,755 2 6	68/	83/	69,563 18 8	68	52	117,715

Summary.

Compiled from Mining Registrars' Reports.

TABLE showing approximately the number of Miners employed in Gold-mining, the quantity and value of Gold won, the area of ground worked, and the value of machinery, in the Colony of New South Wales during 1892.

District.	Alluvial Miners.		Quartz Miners.		Total Miners.	Quantity of Gold.			Price of Gold per oz.		Value of Gold won.	Auriferous ground worked.	Quartz reefs proved to be auriferous.	Value of Machinery.
	Europeans.	Chinese.	Europeans.	Chinese.		Alluvial.	Quartz.	Total.	From	To				
	No.	No.	No.	No.	No.	oz. dwt. gr.	oz. dwt. gr.	oz. dwt. gr.	s.	s.	£ s. d.	sq. miles	No.	£
Albert	159	4	23	..	186	753 0 0	166 12 6	919 12 6	77/6	81/-	2,980 11 6	100	17	1,380
Bathurst	322	20	765	..	1,107	1,851 15 0	21,852 1 7	23,703 16 7	57/6	80/-	83,719 10 5	56	37	60,446
Clarence and Richmond	98	..	198	..	296	1,274 14 16	3,923 17 0	5,198 11 16	45/-	78/-	19,397 1 1	607	196	13,620
Cobar	40	..	228	..	268	165 0 0	2,197 4 0	2,362 4 0	60/-	82/-	9,181 13 6	25	4	9,500
Hunter and Macleay	6	..	118	..	124	50 0 0	1,634 16 21	1,684 16 21	70/-	82/6	6,484 7 0	....	24	11,666
Lachlan	460	6	606	..	1,072	4,108 6 9	8,365 5 14	12,473 11 23	66/8	80/-	40,216 15 7	120¼	116	60,264
Mudgee	442	102	600	..	1,144	4,768 16 3	12,308 16 0	17,077 12 3	66/-	80/-	64,966 11 1	43	10	35,200
New England	69	6	143	..	218	660 0 0	3,372 0 0	4,032 0 0	50/-	73/-	12,608 5 0	25¼	2	60,520
Peel and Uralla	448	112	1,285	..	1,845	3,678 19 14	45,128 4 22	48,807 4 12	63/6	82/6	173,217 11 10	19	114	124,310
Tambaroora and Turon	246	127	352	..	725	5,538 6 9	5,721 10 23	11,259 17 8	75/-	80/-	43,188 17 3	556	98	25,662
Tumut and Adelong	537	38	255	..	830	4,618 12 23	3,218 17 20	7,837 10 19	70/-	82/6	29,663 4 7	71¾	99	49,560
Southern	675	113	446	..	1,234	6,495 0 19	10,260 1 11	16,755 2 6	68/-	83/-	69,563 18 8	68	52	117,715
	3,502	528	5,019	..	9,049	33,962 11 21	118,149 8 4	152,112 0 1	50/-	83/-	555,188 7 6	1,691¼	769	570,143

TABLE showing approximately the number of Miners employed in mining for minerals other than Gold, Coal, or Shale, at some of the principal mines, the quantity of minerals won during the year 1892, and the value of same, and the value of Plant.

Locality.	Miners employed.	Quantities.								Value.	Value of Machinery.
		Copper.	Tin.	Antimony.	Alumite	Iron ore.	Silver.	Silver lead and ores.	Other.		
	No.	t. c.	tons.	tons.	tons.	tons cwt.	oz.	tons.	tons.	£ s. d.	£ s. d.
Broken Hill and Silverton	5,000	223 0	6¼	......	...	1,010 0	12,969,195	26,552	103,368	2,615,231 9 3	600,000 0 0
Rockley	17	...	...	......	...	....	1,450	202	50	2,146 19 6	....
Blayney	......	9 18	...	......	...	....	....	......	...	435 12 0	2,600 0 0
Burraga	26	80 0	. .	......	...	....	....	......	...	3,600 0 0	10,000 0 0
Carcoar	8	13 10	...	......	...	....	....	......	...	620 0 0	....
Mitchell	354	77 0	...	......	...	....	108,462	......	...	21,138 3 0	30,246 0 0
Orange	53	4 15	...	......	...	....	35,557	.....	...	5,528 19 0	10,000 0 0
Cowra	60	120 0	...	......	...	....	....	......	...	7,200 0 0	100 0 0
Armidale	......	...	...	1,600	...	....	....	......	...	32,000 0 0	....
Bendemeer	11	...	11	......	...	....	....	......	...	640 15 6	....
Deepwater	248	...	420	......	...	....	....	12	...	22,380 0 0	7,000 0 0
Hillgrove	......	...	...	1,135	...	....	....	......	...	25,658 0 0	... .
Kookabookra	25	...	2	......	...	....	....	......	...	80 0 0	....
Fairfield	16	...	...	......	...	....	....	......	...	....	....
Emmaville	558	...	1,063	......	...	....	....	414	...	61,339 0 0	20,000 0 0
Wilson's Downfall	244	...	227	......	...	....	....	18	...	12,708 0 0	12,270 0 0
Glen Innes	163	...	67½	......	...	....	....	......	...	4,254 10 0	....
Tingha	500	...	600	......	...	....	....	.. ...	...	32,400 0 0	950 0 0
Captain's Flat	300	671 0	...	......	...	....	8,824	......	...	29,281 0 0	7,035 0 0
Tumbarumba	......	...	0½	......	...	....	....	......	...	28 0 0	....
Pambula	10	...	...	......	...	....	6,107	......	...	966 18 10	....
Kempsey	56	...	14¼	280	...	....	....	......	...	4,310 12 0	1,300 0 0
Mount Hope	40	70 5	...	......	...	....	....	......	...	2,805 0 0	7,000 0 0
Nymagee	250	...	...	......	...	....	....	......	...	....	....
Grafton	10	...	...	24	...	....	....	......	...	288 0 0	....
Bulladelah	28	...	...	......	1,600	....	....	......	1,270	3,517 10 0	300 0 0
Denison Town	75	...	...	......	...	....	145,389	......	...	33,000 0 0	....

TABLE showing approximately the Machinery employed in Gold and Tin Mining during 1892.

District and Division.	Quartz.												Alluvial.											
	Steam-engines employed in winding, crushing, &c.		Crushing machines.	Stamp-heads.	Concentrators.	Whims and pulleys.	Water-wheels.	Pumps.	Huntington mills.	Whips.	Frue vanners.	Chilian mills.	Steam-engines employed in winding, pumping, &c.		Water-wheels.	Turbines.	Whims and pulleys.	Whips.	Pumps.	Puddling-machines.	Hydraulic hoses.	Boring-machines.	Sluice boxes.	Other machinery.
	No.	Aggregate horse-power.											No.	Aggregate horse-power.										
ALBERT DISTRICT—																								
Milparinka	3	20	2	...	...	...	...	...	...	...	...	...	2	39	...	...	...	...	10	12	...	..	...	...
BATHURST DISTRICT																								
Blayney	7	247	3	50	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bathurst	1	...	1	10	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Carcoar	8	110	14	82	...	...	1	2	1	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...
Rockley	1	8	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cowra	1	12	1	8	...	...	...	...	...	...	...	...	...	...	...	...	1	2	...	2	1	...	...	...
Mitchell	4	64	6	25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mount McDonald	3	125	3	40	...	...	...	...	...	...	...	...	1	15	...	...	...	...	...	...	...	...	...	...
Oberon	2	15	2	15	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...
Trunkey	1	...	1	...	...	...	...	...	...	...	...	...	...	...	6	...	...	...	...	...	...	...	..	...
Tuena	4	40	...	40	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
CLARENCE & RICHMOND DISTRICT—																								
Dalmorton	6	74	6	47	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	..	..	...
Grafton	1	16	..	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...
Nana Creek	3	16	3	16	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
COBAR DISTRICT—																								
Cobar	7	69	3	25	..	...	...	1	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mount Hope	1	12	10	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
HUNTER AND MACLEAY DISTRICT—																								
Kempsey	3	65	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..
Bulladelah	1	25	1	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Copeland	4	82	5	65	...	...	...	...	1	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...
Dungog	...	...	2	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Taree	2	24	6	15	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
MUDGEE DISTRICT—																								
Hargraves	3	96	1	8	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...
Peak Hill	5	98	5	61	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Windeyer	2	24	1	...	..	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Wellington	7	105	2	15	...	...	...	...	3	...	6	...	...	...	...	...	...	...	...	...	...	...	...	...
LACHLAN DISTRICT—																								
Temora and Barmedman.	2	85	1	25	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...
Cudal	1	12	1	5	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...
Forbes	2	50	1	10	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Grenfell	4	16	3	30	...	3	4	...	...	...	..	...	1	8	...	...	...	...	...	3	...	...	...	...
Canowindra	2	33	2	15	...	1	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	..
Parkes	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...
Cargo	5	72	6	35	...	...	...	1	...	...	2	...	...	...	...	...	...	...	...	...	...	...	..	...
NEW ENGLAND DISTRICT—																								
Fairfield	11	262	19	38	...	...	...	1	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...
Tenterfield	1	8	...	2	...	...	...	...	...	...	...	...	...	...	...	...	..	...	..	...	...	...	...	...

District and Division.	Quartz.												Alluvial.											
	Steam-engines employed in winding, crushing, &c.		Crushing machines.	Stamp-heads.	Concentrators.	Whims and pulleys.	Water-wheels.	Pumps.	Huntington mills.	Whips.	Frue vanners.	Chilian mills.	Steam-engines employed in winding, pumping, &c.		Water-wheels.	Turbines.	Whims and pulleys.	Whips.	Pumps.	Puddling-machines.	Hydraulic hoses.	Boring-machines.	Sluice boxes.	Other machinery.
	No.	Aggregate horse-power.											No.	Aggregate horse-power.										
PEEL AND URALLA DISTRICT—																								
Stewart's Brook	7	54	7	49	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Barraba	4	40	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hillgrove West	9	147	3	70	...	...	...	1	...	...	7	...	...	...	...	...	...	...	...	...	...	...	...	...
Hillgrove	6	240	7	147	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Kookabookra	1	20	2	11	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Niangala	3	20	2	10	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Nundle	3	42	3	25	...	...	...	...	...	...	...	...	1	10	...	...	...	...	...	...	1	...	...	...
Scone	3	28	3	30	...	...	1	1	2	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Swamp Oak	3	40	3	23	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Tingha	3	30	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
TUMUT & ADELONG DISTRICT—																								
Albury	3	24	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Adelong	8	104	2	...	...	...	...	...	...	...	...	...	8	36	9	...	...	...	...	4	...	...	...	...
Cooma	5	34	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Captain's Flat	3	36	3	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Junee	1	10	...	5	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cootamundra	1	20	1	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Nimitybelle	1	10	1	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Reedy Flat	1	25	1	5	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tumbarumba	3	9	3	25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	...	...	...
Queanbeyan	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...
Gundagai	2	15	2	...	...	...	...	...	...	...	...	...	2	65	...	...	...	...	...	1	...	...	2	...
TAMBAROORA AND TURON DISTRICT																								
Hill End	7	102	7	77	...	1	1	...	...	...	...	...	5	68	...	...	...	...	...	...	1	...	...	...
Ironbarks	7	114	5	49	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sofala	7	133	7	63	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
SOUTHERN DISTRICT																								
Araluen	1	12	...	10	...	1	...	1	...	...	...	...	8	67	4	...	...	...	13	...	4	...	20	...
Cobargo	1	8	1	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Little River	2	20	2	...	...	...	...	...	...	...	...	...	...	...	4	...	4	...	...	...	...	...	120	...
Major's Creek	7	89	2	15	...	...	...	...	3	...	3	...	...	...	...	...	...	...	...	15	...	...	...	...
Moruya	5	66	2	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Nerrigundah	3	30	5	34	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Pambula	3	65	5	35	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Nerriga	1	8	1	10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	5	...
Wagonga	2	16	...	26	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Milton	1	...	1	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	225	3,496	204	1,448	...	10	20	19	19	1	26	...	27	301	31	...	5	2	24	39	14	...	147	...

HARRIE WOOD,
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